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Inspector-General of Auxiliary Forces and Recruiting, in the Chair.

NOTES ON THE TRAINING OF THE INFANTRY MILITIA.

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INTRODUCTION.

THE following notes on the training of the Infantry Militia, though neither professing to be particularly original, nor to be even exhaustive as regards the details touched upon, are submitted with a view of proposing means by which the popularity and efficiency of the force may be increased.

Those of my hearers who are thoroughly conversant with the orders at present in vogue, will kindly excuse the portions where it has been found necessary to quote existing regulations, for the benefit of those less intimately acquainted with the Militia.

THE PROMOTION AND EDUCATION OF OFFICERS.

Subalterns.—A subaltern of the Militia has during his first year's service, from the date of his appointment, to pass an examination of an elementary character, in order to obtain the certificate technically known as E 527; that is to say, he must show a fair knowledge of squad and company drill, the duties of the commanders of guards, etc., of orderly officers, of the system of pay and messing, and of the manual, firing, and aiming exercises. In order to enable him to do so, he has five courses open to him; he may—

- (a) Be attached for two months to the Regimental Depot.
- (b) " " " " a Battalion of the Guards.
- (c) " " " " " " Line.
- (d) Attend the Preliminary Drill of his own corps.
- (e) " " one month at either (a-d) and a second month at a school of instruction.

He receives the pay of his rank on the production of the required certificate, but although he may have chosen course (d), and subsequently attended the annual training, no pay is issued until this certificate is produced as a voucher. This examination may be regarded as a fair test of what a subaltern officer may be expected to know after his first year's

service. My experience of the Boards assembled to examine Second Lieutenants, who have elected (a), (c), or (d) course, tends to the belief that, in many cases, some leniency is shown to the candidates, owing to the members of the Board well knowing that, in the event of the candidate not passing, he will not receive his pay. This may appear a just measure for want of due application in the cases where the subaltern has elected either of the courses (a), (b), (c), but, in case (d), the Board generally assembles at the conclusion of the annual training, and I do not see why the young officer is to receive no pay whatever, for either the preliminary drill or training, which he has just completed. It would be preferable in the event of a candidate failing to obtain E 527, if it were made compulsory for him to attend a month, without pay, at the regimental dépôt before he is re-examined. By regulation, this re-examination is now compulsory within six months of failure. This would have the same effect in inducing the young officer to work, while at the same time it would remove the disagreeable onus now imposed on the Board of not only having to withhold the certificate, but also to withhold about £20 to £25 pay and allowances.

Lieutenants before promotion to the rank of Captain must (unless they have previously served in the Regular forces)—

- (1) Have served at least three trainings.
- (2) Be in possession of certificate A.F.E 516.

Considering the importance of company command, not only in the field, but owing to the increased powers conferred lately on company commanders, the period of three trainings (*i.e.*, in all, perhaps, a short five months) appears to be too little. The average age of both the men and sergeants of a Militia company are considerably above those of a company in the Regular Army. Five or six years' service before promotion should be the minimum, and would not be more time than that in which it can be expected the officer commanding the company could have obtained the necessary experience to deal with his young subalterns, and to fill creditably the important position. Moreover, during these five or six years, surely it is not a great demand on the zeal of an officer to ask him to find one month in which he can either attend a school of instruction, or the School of Musketry at Hythe. I would therefore suggest that, before promotion, he must be in possession of a Hythe certificate at least. It is much easier to induce a young officer, during the first three or four years of his service, to attend schools than it is afterwards, when his civilian line of life has become more fixed, and when he finds he has not so much time to spare, nor so much aptitude in acquiring a mastery of new subjects.

The following table, compiled from last April's Monthly Army List, will give a fair idea of the voluntary certificates obtained by officers in the Infantry Militia, exclusive of those officers—whose number is considerable—who, having previously served in the Regular Army, may also be in possession of several of the qualifications:—

Abbreviation.	p.s.	H.	(T)	t.	(S)	(I)	p.s.c.
Rank	Passed School for higher rank than that held	Hythe Certificate	Special mention in Tactics as laid down for Lieuts. in Army	Passed Tactics as laid down for Lieuts. in Army	Signalling	Instructor of Artillery	Passed Staff College
Lieut-Colonel ...	26	9	10	2	1	—	1
Major	48	39	22	4	2	—	—
Captain	303	193	43	34	5	2	—
Lieutenant ...	86	51	2	6	—	—	—
Second Lieutenant	13	3	—	—	—	—	—
Totals ...	476	295	77	46	8	2	1
Grand Total							905

As an example of what may be done, let attention be drawn to the 3rd Battalion King's Own Scottish Borderers, of which, including the Hon. Colonel, the nineteen senior officers have obtained p.s., four officers (T), two officers t, and six officers have passed at Hythe. Also to the 3rd Battalion Gloster Regiment, of which the twenty-three senior officers have p.s., five officers (T), two officers t, and two officers have passed at Hythe. Eighteen officers of 3rd R. W. Surrey and sixteen officers of W. York Regiment have obtained a p.s. On the other hand, fifteen battalions, who shall be nameless, have not a single p.s. between them.

Captain Holden, lecturing in this theatre in 1891, gave the following numbers :—

Officers with p.s.	..	..	..	..	450
Passed tactics	..	..	..	..	133
School of Musketry	..	..	..	..	265
Signalling, etc.	..	..	..	..	10
Total	..	..	..	..	858

This total, when compared with the total for April, 1895, shows a steady increase in the voluntary education of officers. No one more desires this advance than the officers themselves, and if it were definitely laid down that, before a subaltern were promoted to the rank of Captain, it was essential for him to have displayed some earnest of his wishing to improve his military knowledge, I am sure that this increased call on the time of the Militia officer would, instead of having any deterrent effect on a gentleman taking a commission, rather tend to the reverse.

Captains.—Captains before promotion to Field rank must be in possession of A.F.E 505 ; that is, have passed—

(a) Battalion drill, the command of a battalion in brigade, battle formation, route marching, advanced and rear guards, the duties of mounted officers, and riding.

(b) The mode of demanding supplies, ammunition, food and forage, also orderly room work and correspondence. Keeping to the idea that it is the younger officers who can best spare the time for extra certificates, any further test than this should not be necessary ; but instead of having the Board for the examination of Captains for promotion on one of the days of the inspection (in which case the inspection of the battalion often has to be curtailed or modified for the Board), it would be more advantageous to hold the examination on any other day.

Field Officers.—For field officers before promotion to battalion command no examination is required. To quote from a dictum, Major Anderson, R.H.A. in 1886 : "Good commanding officers make good officers and good battalions ; without these it is hopeless to expect any efficiency, and no pains should be spared to secure them. Therefore offer what emoluments may be deemed advisable, but secure the best men for these posts." Because an officer is efficient in the rank he holds, it does not follow that he will necessarily ever be suitable in the higher grade. If this is true, selection, however tempered, becomes imperative. The Militia is rooted in county traditions ; if, therefore, a suitable county man can be secured, by all means select him. While on the subject of senior officers, it is suggested that commanding officers in the Militia should, at their own option, of course, be exempted from the duty of holding the office of High Sheriff, and similarly field officers be exempted from Grand Jury work. In Ireland particularly, where, owing to the smaller number of suitable men to select from for the former distinguished, though expensive, position, many might like to avail themselves of the exemption. It is the duty of every man to give some service to his county and country ; but if it is given in the Militia, it might be allowed to exempt in other ways.

MUSKETRY.

The Musketry Training of Militia Recruits consists of six days' drill and instruction, including fifteen rounds fired with the miniature cartridges, and then five days' target practice, consisting of fifty-six rounds in individual practices at distances between 100-500 yards, and twenty-one rounds in collective fire. Those who obtain—

100 points and upwards are classified as	First class.
80 " " less than 100 "	Second "
Less than 80 points are	Third "

That is to say, roughly, if the firer hits the target anywhere, on an average of every shot, he is considered first class ; but if he misses it more than one out of three shots, he is third class. No one can say that this is an extravagantly high standard.

The classification of the recruits trained in 1891-93 shows a percentage as follows :—

Year.	First Class.	Second Class.	Third Class.
1891 ..	16·73 ..	38·64 ..	44·62
1892 ..	26·54 ..	31·92 ..	41·52
1893 ..	24·58 ..	36·92 ..	38·48

These numbers show a decreasing number of third class shots, but still far too large a percentage, when we remember what an indifferent shot it takes a man to be to get out of the third class in the Militia.

Annual Course of the Trained Soldier of Militia.—The recruit once trained has, during each annual training, three days' preliminary drill, and fires twenty-five rounds in individual practices at distances between 200-500 yards (provided the range will admit of it), and, in addition, twenty rounds in collective firing. Those who obtain, in the individual firing—

50 points, are classified as marksmen.

35 points, but less than 50, are classified as First class.

22 „ „ „ 35 „ „ „ Second „

Less than 22 „ „ „ Third „

That is to say, roughly, if the firer hits the target anywhere every shot, he is a marksman; and if he only hits the target anywhere with half his rounds, he is above the third class. Still less can anyone say this is an extravagantly high standard.

Battalion Classification.—Owing to the various standards of classifying battalions in vogue at different times, it is difficult to present a comparison table for consecutive years; but the following figures, taken from the reports of Inspector-Generals of Musketry, will give some information :—

Year	Number of Battalions exercised	Number of Men exercised	Number of Battalions classified as					
			Very satisfactory.	Satisfactory.	Moderate	Indifferent	Bad	Not classified
1891	124	63,796	12	56	42	8	3	3
1892	131	69,659	Number of Battalions classified as					
				Very good	Good	Moderate	Bad	Total
			In Range Practice	19	39	56	17	131
			In Field Practice	8	46	47	30	

1893 119 battalions trained, but 10 battalions were not exercised in field practices, owing to want of range accommodation.

1 battalion trained but not classified.

5 battalions trained in modified course.

2 „ „ not exercised.

Total 128 battalions.

Total men exercised—73,611.

In 1892, 32·69 per cent of the Militia were third class shots, and from the above figures for 1892 it appears that, roughly, 50 per cent. of the Militia battalions did not succeed in surpassing a "moderate" standard. When we remember that one-fourth of the total rank and file is enrolled in the Militia Reserve, and are, therefore, liable, on emergency, to reinforce the line, it is needless to dilate on the necessity of a sound musketry training. It is, however, necessary to bear in mind that it is not because a man is a militiaman that he does not shoot fairly well—for the physique of the Militia compares more than favourably with the Regular Army—but because the militiaman, as a man, does not receive a sufficiently careful training. The reason for this is not far to seek. Scarcity of time, and the great variety and amount of complicated battalion movements expected to be mastered in the short period of an annual training, are the main factors in compelling the musketry course, in spite of the most ardent desires of some commanding officers, to be hurried over in one gigantic scramble. Minor factors are: the scarcity of competent instructors, the distance in many cases of the ranges, and the knowledge that it is by the performance of battalion movements at the inspection that the efficiency of the corps will be judged. As regards scarcity of competent instructors, officers, and N.C's.: Firstly, taking the officers from the Monthly Army List for April, 1895, the following is the number of musketry instructors for the Infantry Militia battalions, exclusive of the Channel Islands:—

Battalions having an Instructor ranking as Hon.						
Major and Captain	..	..	..	..	..	11
Captains	..	..	..	..	..	55
Lieutenants	..	..	..	..	..	27
Total	..	..	..	..	..	93

The number of battalions with no musketry instructor was 32, that is, 26 per cent. of the whole. Before musketry instructors were abolished in the line battalions, I think I am correct in stating that the appointment, as such, was always given to a duly qualified officer of the rank of Lieutenant, the reason for which was, that it was deemed important that a Captain should not be taken from his company; yet, in the Militia last year, we find 66 officers commanding companies who were taken from their own companies for the purpose of training the remainder in shooting. This is not desirable, and the appointment should only be given to a subaltern; and if the suggestions made above, when dealing with the desirability of Lieutenants obtaining a Hythe certificate before promotion were carried out, there will be no dearth of Lieutenants on whom the appointment can be conferred.

Secondly, as regards the N.C.O's.: The instructors, on whom real dependence can be placed, are the sergeants of the Permanent Staff; that is, one colour-sergeant and one sergeant per company. Should they both be present, this necessitates 60-80 men being divided between them—far too large a number for any instructor to deal with creditably at preliminary drill.

In 1892 35·78, and in 1893 37·93 per cent. only of the Permanent Staff were in possession of School of Musketry certificates. When a N.C.O. serving with a regular battalion registers his name for transfer to fill vacancies on the Permanent Staff of the Militia, it should be made one of the necessary qualifications that he is in possession of a school certificate; however, even as it now stands, it is not that they are not excellent instructors, but that they are asked to do more than any one man can do thoroughly.

As regards the main factor—scarcity of time—the only remedy seems to be to substitute alternate trainings for musketry and for battalion training. The chief argument raised against devoting a training in the main to musketry, is that it would be unpopular with both officers and men; and, in the words of “The Army Book for the British Empire,” “Hitherto it has been the aim of the authorities, when determining which system of training shall be adopted, to try and combine, as far as possible, the two important desiderata of popularity and military efficiency, and not unfrequently the latter has had to give way to the former.” Yet, I doubt, if it were clearly shown that the force would gain in efficiency by improved shooting—and improved shooting would certainly be attained by a musketry year—whether this proposed measure would be unpopular; for, again, to quote the Army Book, “All may take courage, and believe that anything which will make the Militia still more smart, active, and efficient soldiers, up to the standard of the present age, will also tend to the true popularity of that much-valued branch of the Service.”

If, therefore, a whole training were mainly devoted to musketry, that training might take place where ample range accommodation was available, The companies would have more time, both for the preliminary instruction and for the practices, the necessity for shooting in every conceivable kind of weather except total darkness would be obviated, and musketry altogether made more popular. The inspection for that year would be mainly a musketry inspection fully and thoroughly carried out, and not, as now, a little musketry inspection and a big battalion march-past inspection. The officers would be taught and examined in musketry subjects. One objection which may be raised to this is that for two years a Militiaman will not shoot, but it is more than doubtful whether the annual musketry scramble, which he now partakes in, makes him anything like as efficient as he would become by a thorough biennial training. It must also be remembered that at present, in very strong battalions with limited range accommodation, there is a considerable number of men who, owing to the musketry not being completed, only shoot in alternate years. All musketry instructors are agreed on the necessity of careful preliminary drill, and having had some experience in the training of recruits of the line, at the risk of being thought egotistical, I give the following results arrived at by keeping regular records:—During 1887-89, when training about 600 recruits in parties of 30-50 each in all weathers, I found that the difference between good and bad weather only influenced the figure of merit by less than a point; but that the figure of merit of the shooting of a party, trained for the regulation number of days' preliminary drill, was

to the figure of merit of a party trained for extra days to the minimum regulation period, in an ever-increasing ratio directly proportional to the extra amount of preliminary drill which the party had had bestowed on it.

A salutary rule was brought into force last year to the effect that third class shots were not to be admitted into the Militia Reserve. It would be advantageous if third class shots were absolutely forbidden to be employed in any regimental employ, such as permanent orderlies, officers and mess servants, cooks, etc., for it would bring home to the rank and file the importance attached by authority to individual good shooting.

Nothing tends more to increase musketry efficiency than the healthy rivalry engendered by inter-regimental and company matches, but fortunate is the corps at present who can complete what they are obliged to do, much more those who may have any time to spare for match shooting. The Militia Rifle Association are doing every good, as far as it lies in their power, under existing conditions. The more you interest a man in his work, the better he will do it; and I hold that it is more important that a force which is established for home defence, and therefore most likely to occupy defensive positions, should be better at shooting than at drill.

Colonel Walker, lecturing here, said, "Suppose, for instance, the Militia embodied on a sudden emergency, every spare hour, from the moment of its assembly to the moment of its going into action, could be utilised more or less for drill. We know that in the Franco-German War Prussian battalions, and even brigades, were sometimes sent to drill at the end of the day's march . . . but to improvise any useful process of musketry instruction under similar circumstances would be obviously impossible."

The subject of musketry has been dealt with at some length, but its importance must be the justification. I dare say there are some officers in this room who have spent hours in helping to devise schemes for the land defence of our country; but I ask you, What is the use of it if, when the men are got into these positions, it is found they cannot use their weapons with effect? It is not to be expected that the Militia will all be "crack" shots; but it is of vital importance that they should be taught to shoot, so that the majority may present a better figure of merit than at present; and I appeal to all Militia officers not to look on musketry as a necessary bore, but as *the* most important part of the education which it is their duty to impart to those under their command.

TRAINING AND INSPECTIONS.

It is with some diffidence that I approach the subject of inspections, owing to the fact that they are one of the duties of officers greatly superior in rank and experience to mine, and that I may be likened to the class who "rush in where angels fear to tread"; however, I can confidently say that the whole training of a Militia battalion depends, in an enormous extent, on the kind of inspection it expects to receive. The time for training being so short, so much having to be completed in that time, the training

is, in a great measure, a rehearsal of what will be expected to be done when the curtain rises for this, the last act of the training ; and consequently, if certain movements are expected, so surely will those movements be assiduously practised. Inspecting officers, of course, vary somewhat in their demands ; but inspections, taken one with another, bear a close family likeness. There is the march past, a few battalion movements and exercises, a marching order parade, the inspection of kits and camp, with regimental institutions, and company and battalion books, and all is over. In a paper read by Colonel Walker, commanding 3rd Battalion King's Own Scottish Borderers, in this Institution in 1887, describing the ordinary military life of the young Militia officer, he writes :— "Some time in the early summer, when the London season is at its height, he repairs to some dull country town, the headquarters of his battalion, and there in camp, in barracks, or even in billets (for that pernicious system dies hard), he goes through with dreary iteration his annual training. His actual work is limited from want of time, and also too frequently from insufficient drill ground, to a dreary mumbling over the dry bones of company and battalion drill, varied by a desperate scramble through the course of musketry, ending with the stock inspection, conducted by the same officer, on the same parade, where every daisy seems an old familiar friend, and on which the hole in the ground for the staff of the saluting flag is an ancient institution."

Doubtless there are exceptions to this dismal picture, so vividly drawn ; but I fancy it is as true, in the majority of cases, now, as then. What is the object of an inspection at all, if it is not a means of enabling a conclusion to be drawn as to the physique, bearing, and capabilities of the battalion, under the command of its officers, to perform such duties *as it may be called upon to do in war* ? Shooting and manœuvring (in the modern sense) should be the real tests by which a battalion should stand or fall—not marching past and battalion movements. Not for one moment do I wish to disparage the "steady" value of marching past ; but where the time is so limited, surely good shooting, and good fire discipline, should have the preference in the amount of time devoted to them. According to the present system, these subjects are more or less—especially more—left, while the marching past, etc., occupies much of the available time. If, unfortunately, the Militia were called out, in an accomplished invasion, and of two battalions one had a knowledge of outposts, skirmishing, and the defence of posts, etc, while the other could march past, form battalion squares, and advance in échelon, and the choice of command was given to anyone of you, gentlemen, I have little doubt which of the two would be selected. Little is ever done at an inspection which may, in time of need, be required of the battalion, except, perhaps, a small attack. Some may say that a Militia battalion will not be likely to be called upon to perform an attack ; granting, but not agreeing with, that supposition, I venture to maintain that, at least, they may be required to act in a defensive position ; therefore let them be inspected in what they may be called upon to do in war, let the battalion be placed in shelter trenches of their own constructing, representing, say, the outer line of an

entrenched village, be practised in delivering a counter-attack, in the supply and distribution of ammunition, in judging the correct ranges, and in fire discipline. These, together with like exercises, will surely give the inspecting officer an ample opportunity of judging the efficiency of the battalion, and of its officers.

If alternate years were devoted to musketry and to battalion training, as already advocated, other subjects than pure musketry might easily be learnt during that year. Even if double the time at present allotted to musketry was taken, a large residue of time would be available for either a modified form of company-training, or for a course of outpost duty and skirmishing, and yet time remain for a small quantity of "steady" drill. During the battalion training year, the time gained by having no musketry could be used for the subjects now either omitted altogether, or merely superficially glossed over.

It is to be hoped that, ere long, all the Militia may receive the magazine rifle. When this does happen, many of the ranges now in use will be no longer available, owing to safety conditions, to practise on; but with alternate trainings, the pressure on range accommodation will be reduced by one-half, since half the battalions of the force will not require a range for the year in question. All will agree that it is better to accomplish a little thoroughly than to attempt much in a superficial manner: let that little be chosen with every thought concentrated on likely and probable requirements.

THE DRUMMERS OF THE PERMANENT STAFF.

As a part of the Permanent Staff of each unit, one drummer or bugler per company is allowed; these, of course, must not be confounded with the drummer per company, who is a Militiaman *pur et simple*. They are obtained by:—

(1) Enlisting them for long service in the territorial regiment, and posting them to the Militia unit.

(2) By enlisting on Army engagement, one of the Militia drummers.

(3) By transferring a drummer from the territorial regiment to the Militia battalion.

(4) By enlisting a boy from the Duke of York's School, or from the Royal Hibernian School.

In the event of the Militia headquarters being the same as the regimental depôt, each of these courses appears to work well; but when, as in many cases, it is not identical, and the Militia headquarters are situated away from the depôt, there are many disadvantages, viz., in the case of (1) and (2) the boys come straight from civil life into a barrack, where the majority of the Permanent Staff, including their immediate superior, the sergeant-drummer, is often married; where there are no corporals, where there are no old soldiers, and where, owing to the disparity in age and rank between them and the remainder of the Permanent Staff, they have to keep themselves to themselves. They are, therefore, from the outset never under proper control. They have no cook except one of themselves, and their mess suffers in quality and comfort from the defects inherent in small numbers.

The *raison d'être* of their being on the staff at all is:—

(a) To sound calls, both in the training and non-training.

(b) That unless a bugler practises for eleven months he would be of little use during the twelfth or training month.

(c) To perform, during the non-training, the fatigues in barracks, which the sergeants cannot be expected to do.

(d) To assist in the cleaning, and keeping in repair of the Militia stores.

Owing, therefore, to the want of proper supervision, their small numbers, attenuated mess, light parades, and heavy fatigues, the habits of cleanliness, and more especially discipline, so easily inculcated in either the dépôts, or in the line battalions, are not engendered.

If, instead of one drummer per company, one married man per company serving on his line engagement were allowed to be transferred to the Militia battalions, there would be available six to ten men, accustomed to discipline and soldierlike habits, who could more adequately perform the various fatigues in barracks in the non-training, and who, in the training, could become the pioneers of the battalion, at the same time freeing the present Militia pioneers. Quartermasters would infinitely prefer permanent pioneers to the Militiamen, whom it takes half the training to teach how to clean a camp, etc., and the other half of the training to see that they do it. They being married would not require a mess, and in the event of misconduct would be liable to be sent back to their line battalions. Truly, there would be no bugler until the Militia buglers came up for the training; but what calls are really essential in the non-training period? Practically none, for the Militia barracks are usually small, and the parades few. In the event of a fire bugle being unfortunately required, as speedy and efficacious a turn-out could be effected by the ringing of an alarm bell, or the sounding of a gong by the sergeant on gate duty. The appointments on the Permanent Staff are generally looked upon as a means by which the married sergeant can return to his native county, freeing himself from the vicissitudes of climate, and the expenses of the periodic moves of a marching regiment. A few of the married men would also seize a similar chance. If these men were still borne on the married roll of the line battalion, but otherwise supernumerary to the establishment, no greater expense would be entailed. Many Militia barracks would not hold them, it will be urged. Granted; for many barracks do not hold the Permanent Staff, and the overflow is on the lodging list. This is an expense, but their quarters would be freed in the line battalion, and their lodging allowance would not cost nearly as much as the pay and keep of the drummers at present allowed. Moreover, the drummers' room would be vacant, and, being a large one, would be available as a quarter for a married sergeant brought off the lodging list. The cost of moving these married men about with the line battalion would also be saved—no small amount when moving abroad. Against this must be put an increase necessary to the Militia drummers proper, in order not to hurt the fife-and-drum band. They would only be paid and kept for twenty-seven days. The Militia

drummers are generally the sons of residents in the town, where the headquarters are situated, and are often, in fact, the sons of sergeants or ex-sergeants of the Permanent Staff. They are easily obtained, and if made to attend in their civilian clothes, at a small remuneration, such as 2d. a day, one hour per evening during the winter months, for practice in bugle sounds under the sergeant drummer, it would be found that they would be fit for their work when the training commenced.

If the above proposal was regarded as infeasible it would, as an alternative, be advantageous if the drummers were not allowed to serve on the Permanent Staff until they had been a certain time—say two years, at least—with a line battalion. To this commanding officers will urge, that it is hard they should train and educate lads for another battalion, even for their own territorial Militia; but do they and their company officers not now train in the home battalions hundreds of young lads to feed the battalion abroad? and are not some of their best N.C.O's transferred to the Permanent Staff? After all, it is only work performed for the general good of H.M.'s Service; and how better can a man's time be employed than in promoting its welfare, even in the smallest degree such as this?

MINOR PUNISHMENTS.

In an admirable paper, read in this Institution by Colonel W. T. Dooner in 1892, it was advocated by him, when discussing minor punishments, as follows:—

"As men . . . will commit offences against discipline for which punishments must be given, I do not see why, when a soldier has to be awarded confinement to barracks, that the man should not, as in civil courts for certain offences, have the option of paying a fine instead of doing his punishment. Thus if a man is awarded ten days' confinement to barracks, there appears to me to be no reason why the commanding officer should not have it in his power to say, 'or fined 5s.,' sixpence for each day's C.B. . . . It is further suggested that the fines for drunkenness and mulct pay should all be credited to the battalion. The total sum should be taken at the end of each month, and credited to the different messes in proportion to their strength."

If these proposals, to which hardly any objection can be raised, apply to the Regular Army, they apply with double force to the Militia. During the training every available moment is taken advantage of for drill, and it is found, after three and four parades a day, that it is impossible to inflict the full amount of punishment drill, which, all said and told, is a useless expenditure of energy. The time of a good N.C.O. is wasted in marching the defaulters about, and when a Militiaman, who may have been awarded a few days' punishment drill for being dirty on parade, has performed his daily parades and his defaulters' drill, what amount of daylight is left to him to clean his kit, and otherwise try to make amends by appearing smart on the next day? There are no two more vital points on which he can be touched than on his stomach, and on his pocket; if, therefore, the erring Militiaman saw his pay going to increase the grocery ration, of which he will ultimately only obtain a fractional share, it would

have a better effect on him, and give him, in his own language, "a chance" for improvement than all the punishment drill of defaulters ever inflicted.

The subject that the proceeds of fines for drunkenness, for mulct pay, and fines in substitution of confinement to barracks, should be credited to some Army vote, deeply hidden in the depths and intricacies of the Army estimates, instead of being devoted to the battalion concerned, is apparently so illogical, not only to the mind of "Tommy Atkins," whom it most concerns, but to everyone else, that it needs no further comment.

THE RECRUITING OF LADS.

The regulations leave a liberal margin to the judgment of recruiting officers (subject to the concurrence of medical officers), as regards the chest measurement of growing lads between the ages of 17-18 years, with a minimum of 5 feet 3 inches in height. Most of these boys, too small for the Regular Army, after the good food and regular exercise of only one training, develop in the most remarkable manner; and it is from them, more than from any other portion of the battalion, that the recruits, eventually joining the Regular Army from the Militia, are drawn. Considering what valuable aid is given by the Militia to recruiting, would it not be possible and better to enlarge this opening? Let more and smaller boys be enlisted, but do not let us delude ourselves and the public by saying we have so many extra Militiamen; so let us call them cadets. These cadets should be drilled, fed, and clothed, but paid as boys. Of boys so enlisted, a large proportion would grow sufficiently, after one training, to be capable of taking their place in the ranks at the next training, and many of them would doubtless eventually join the Army. It would be an extra expense to the country; but when recruiting has arrived at the happy stage of perfection, when there is no difficulty in obtaining the number required—which is not exactly the case at present—it could be discontinued. Meanwhile, nearly all the extra battalion duties, such as orderlies, cooks' assistants, ration carriers, and light fatigues, could be performed by them, thus freeing a large number of men from inevitable duties, which take them away from parades and their legitimate instruction. The men thus freed would be more thoroughly trained, and consequently an indirect gain to the public. The lads, if not taken young, are often lost, because, while seeking employment, they leave the county, and are not so likely to enlist into another Militia as they would be into their own territorial corps amongst their village companions.

THE DINNER HOUR.

The alteration of the dinner hour is no new idea; but the mid-day meal seems universal as the main meal of the day. If 5 p.m. or thereabouts, was recognised as the normal dinner hour, many advantages would accrue. The two main meals, breakfast and dinner, would be more equably divided between the twenty-four hours, and that long period between dinner and breakfast, only broken by many men by a visit to the liquor portion of the canteen, would be considerably

shortened. The tea meal is not looked upon as of much account. If it was abolished, and the tea bread issued at mid-day, together with the soup portion taken from the dinner, a substantial luncheon would be provided; the money expended on tea, milk, and sugar would then be available to provide an additional course to the dinner. Those who have had to instruct, as well as those who have been drilled, on a hot summer's afternoon, almost immediately after a dinner eaten directly after returning from the mid-day parade, will see the force of this argument. Markers and musketry parties will be more likely to have completed their work by 5 p.m., the extra trouble and fuel required to keep their dinners warm will be saved, and a more satisfactory dinner obtained. On Sundays, perhaps, the present hour would be more popular, as it would give both the cooks and the troops a longer afternoon to themselves. Lastly, but by no means least, in even this small way, the men are being trained for war requirements. Then certainly mid-day meals will be the exceptions—dinner will be late, probably very late.

CONCLUSION.

In advocating the above propositions, with the exception of the enlistment of boys, an attempt has been made to steer clear of any suggestions involving increased expenditure, as on that score alone they are pretty sure to be condemned.

The hope of promoting the efficiency of a Force, aptly termed "the backbone of any home-defence scheme," with which I have had the honour to be associated for some years, is the reason for my presenting the above notes to your consideration.

MAJOR LORD RAGLAN (Royal Monmouthshire Engineers): Sir Francis Grenfell and gentlemen, there are some things with which I do not quite agree in the very interesting lecture we have just heard, and if you will pardon me a few minutes I should like to mention them. One is, to begin with, the training of officers. You cannot get good men unless you have good officers, and the training of officers is a very great difficulty in the Militia. As far as I can make out, it is made more difficult for any officer to attend a school of any sort. It is rather difficult when you are talking like this to avoid either talking personally or talking generally, but I might mention one or two cases of that kind which have come under my own notice quite recently. One is a case in my own regiment—the Monmouthshire Militia—in which an officer a short time ago applied to go through an engineering course at Chatham. Everything was settled, he was to go: he was to go on a Monday. On the Friday afternoon before the Monday a notification is received at the Orderly-Room that there is not room for him. It is all very well with officers of the Regular Army to order them here and there at forty-eight hours' notice, but for an officer of Militia, who has his other business to attend to, it is exceedingly inconvenient if alterations are made at the last moment. Take the case of an officer who is a married man, who may have made arrangements to let his house, or his wife may have made arrangements to go to some particular place, suddenly at forty-eight hours' notice to find that the whole of his arrangements for the next two months are upset. I do not think in that way Militia officers are given any encouragement to go through any course, or to qualify themselves in any way. There is another point, the exceedingly round-about way in which you have to communicate if you want to go through a course. Take, for instance, my own case: If I wish to go through

a course of any sort I write to my Adjutant—No 1. He writes to the Commanding Officer—No. 2. He writes back to the Adjutant—No. 3. It then goes to the Commanding Royal Engineer, Cardiff—No. 4; then to the Commanding Royal Engineer at Devonport—No. 5; then to the General commanding the district—No. 6; then from him it goes on to anybody it may affect—No. 7: so that if a man is always sitting in his office and ready to answer the letters immediately they come, the very shortest time is fourteen days in which you can get an answer of any description. It seems to me it is considerable odds that someone in that long drawn-out chain may be away from his office, or some delay may occur, in which case it puts it off to three weeks. It seems to me some simpler way of an officer applying to go through a course should be proposed for the Militia; for instance, it would be perfectly possible at the end of a training for an officer to go to his Commanding Officer and say, "I may have a chance between now and the next training to go through a course." The Commanding Officer might give him a covering letter: "Lieutenant So-and-So," or "Captain So-and-So is anxious to go through the C or D course; I recommend him strongly." Why should not that officer, with that letter in his pocket, go to the War Office, or the nearest head authority, and say, "Here is my letter from my Commanding Officer; may I go to Hythe or Chatham, or one of these courses?" It frequently happens with busy men—and, in these hard times, nearly everybody is obliged to work pretty hard to worry along at all—an officer may suddenly find, for some reason or another, he has a month or two months to spare, and he says, "I have nothing to do in May or June, I will apply to be attached to a regiment"; but if he has to wait three weeks before he gets a ghost of a chance of an answer, he may say the game is not good enough, it is not worth trying. Another question is whether pay is allowed officers or not. I studied the regulations the other day myself with a view to going through a course, but no human being can tell whether I can get pay or not. Therefore I say I am not going to bother about it. It is not made easy for officers to go through these courses by any means whatever. Another thing is the great dearth of officers, which makes the training of men impossible. First of all, there is a very exaggerated idea about the cost of the Militia. Everybody thinks it is very expensive to be in the Militia. It is not so where regiments are properly managed, but still there are certain expenses which I think officers might easily be saved by a little sympathetic action on the part of the Government. The expense of officers providing their own mess kit, their own camp furniture and equipment, seems to me a thing that might be very easily arranged, if the Government would lend the regiments money at $2\frac{3}{4}$ per cent. The Government can get any money they like at $2\frac{1}{2}$, and if they would lend £500 to a regiment their security is ample; they can retain the pay of the officers if they like; they can retain anyhow the messing allowance; and supposing they lend the regiment £500, to be paid off in twenty-five or thirty years, somewhere about £30 or £35 a year would pay that money off in the time, and the officers would be saved this very enormous expense they have to pay for the hire of mess kit, tents, and camp furniture. With regard to the lecturer's proposal about musketry, there are certain reasons, of course, why it is very difficult to teach the Militia to shoot. One is, as to the physical effects upon a man of firing many rounds a day. When I was a soldier I was firmly convinced of the fact—I am speaking entirely about the Martini-Henry; I know nothing of the Lee-Metford—that no man can possibly fire with justice to himself more than ten rounds a day. Taking the ordinary soldier, frequently I have said to myself, "The men are shooting well, there is plenty of time, the light is good; why not let them fire another ten rounds?" but I have never fired a second ten rounds without being sorry for it. I am perfectly convinced that no Militiaman can shoot more than five, and if you want to get the best shooting out of the Militiaman you ought not to shoot more than five rounds a day. There is another question with regard to the shooting of the Militia. Practically the Militiamen come up for a jolly, and no doubt a great part of them

go to bed with just about $1\frac{1}{2}$ pints too much beer inside them, and when a man has too much beer in him he cannot shoot next morning. That is an obstacle I cannot see any way of getting over. Another thing is, it is of great importance that a man should have something he can hit. My impression is the targets are too small and the distance too great. I should like to begin with a man at 50 yards at a 40-foot target; give him something he can plug. A man, after having had a week's spree before he came up to the Militia, with the beer still in him, is put in front of a very small target at 200 yards, standing up, and is told to hit it. The result is, he gets his tail down. He says, "I shall never hit the beastly thing." He lets his gun off and says, "I shall never try any more." If you gave him a larger target he would see where he was going. Nothing is so disheartening as to see men miss time after time, and in clay banks where you cannot see the strike of the bullet you have no means of correcting the man's aim in any way whatever. I thoroughly agree about the important point of the captain commanding a company not being practically the musketry instructor. It is impossible that he can do the two things. He is trying to serve two masters, which is impossible. If the musketry instructor is—as he ought to be—a captain, he ought to have a supernumerary rank. The chief thing a musketry instructor wants, in my humble opinion, is not particularly that he should have been to Hythe and be able to gabble over the lecture (which he probably does not understand) quite perfectly; but that he should be able to teach men how to shoot, and that is the one thing in the world which is never taught you at Hythe. You learn to fire at a target yourself, you are taught all these lectures, but nothing whatever is taught as to how you are to make a man shoot. There are little dodges one learns in soldiering, such as making these men—and many of them won't do it unless they are made—put their eye to the notch on the back sight. These are the sort of things that a Militia officer, unless he has the advantage of being a subaltern in a company under an officer who takes an interest in musketry, has no chance of learning. I do not quite agree about the permanent sergeants being the only people you can depend upon, because in my regiment for years we have always had our squads drilled by the Volunteer sergeants, and when they are properly looked after they do it just as well as anybody else. Nor do I at all agree with the proposition that you should have an alternate musketry year and a drill inspection year. It would mean that in many cases regiments would not fire for four or five years. The difficulty of ranges, which the lecturer has brought in later in his lecture, would be more or less taken advantage of. The Militia are looked upon by most of the musketry authorities nowadays as a nuisance on their ranges. They want to get rid of them as quickly as possible, and excuse would be made from that, that the Militia should not shoot at all, and in many cases they would never shoot at all. I should like to see what we used to call in the old days the "punching drill" restored. That was the very finest drill in the world: it strengthened the men's arms and took the beer out of them, and did them a most extraordinary amount of good. When the lecturer alludes to the effect of preliminary drill in the old days, he forgets the fact that nowadays the "punching drill" has been abolished. I do not see myself why you cannot combine drill and shooting. Of course, the old soldier's theory was that it was impossible for a man to do anything else if he was shooting. It is the old story of the man who says, "Bill, help me with this bucket." The other man says, "I can't; I am ball firing." Traditions like this die very hard. I cannot see myself why a man should not fire his five rounds in the morning and do two hours' parade in the course of the day. As soon as the tradition is knocked on the head there is no reason why the two things should not be combined. To my mind the difficulty about inspection is, that there is no standard of any sort or kind laid down for the Militia. Very few persons who go to inspect a Militia regiment know what they are like. Take the average officer appointed to command a brigade dépôt; probably he has never seen a Militia regiment in his life. He

takes one of two views: he either expects it to drill like a battalion of Guards, or he is so astonished that it can stand in a row without falling down that he considers it most marvellous in its efficiency. There is no standard at all laid down. By the time he really begins to know one Militia regiment from another, and what they can do and cannot do, he is taken away and somebody else, as ignorant as he was, is sent in his place. I contend that the Militia ought to go once in three years to a camp of instruction of some sort. There are many Militia regiments that have not been to a camp of instruction for seventy-five or eighty years. I know one which has not been anywhere for eighty years. And a Militia regiment should be given every five or six years a chance of training its men in barracks. I am afraid I do not agree either about the question of abolishing all drummers on the permanent staff. It would destroy the band of a regiment altogether; it would give the officers no chance to support a band. Either they would have to give up their band, which in many cases would very largely affect recruiting, or they would have a very large amount of extra expense thrown upon them, which in these days would at once reduce the already small number of officers. It is a great mistake to have two sorts of men serving with different engagements upon the same job. Personally, I find that very much with stripe sergeants on the permanent staff, after the recruits are done with he is the fifth wheel in the coach; he gives himself great airs over the Volunteer sergeants, though he has only the same rank as theirs. To my mind he is neither one thing nor the other. You would find the same thing with your old soldiers; they would give themselves great airs over ordinary Militiamen, and I do not see any advantage they possess at all. There are plenty of old soldiers in the Militia—25 per cent.—and you have plenty of men who know how to clean a camp, or if they do not they ought to be made to. The difficulty about paying the Militia drummers extra during the non-training for practising is this:—We have tried it in my own regiment, and paid the Militia drummers to come and practise during the non-training; and then next year perhaps times are good, some of the furnaces are blowing in; and these men purchase their discharge and go away.

Major R. HOLDEN (4th Battalion Worcestershire Regiment): There are one or two points in this lecture to which, with your permission, Sir, I should like to allude. The first is the question of the promotion of lieutenants to the rank of captain. In 1891, I had the privilege of delivering a lecture at which your predecessor, Sir Lyon Fremantle, took the chair. I said then exactly what I think now, that three years is an absurdly short period in which to promote a subaltern to the command of a company in the Militia, and General Fremantle agreed with me. It is practically impossible that a subaltern can have acquired, with so few months' training, the experience and knowledge requisite to enable him to do justice to his company. I think it is much easier to get capable captains than subalterns in the Militia; and a Commanding Officer of good social position and influence, commanding an efficient regiment, will have little difficulty in getting ex-Army officers to take command of companies. Remember that the youngest captain in the Militia ranks before the senior subaltern in the British Army, and he also ranks before the senior captain in the Volunteers; so, for the sake of our own dignity, it becomes a question of great importance. The two senior subalterns in the British Army at the present moment have each had fifteen years' service; they have both been on active service, and they have both been employed on the staff; yet they rank after the junior captain in the Militia. And, to make matters worse, even the three years' qualification is not always adhered to, for within the last few days a subaltern has been promoted to captain after but one training! The lecturer has, I think, made a mistake in the table dealing with the extra certificates held by Militia officers. The letter (T), denoting proficiency in tactics, he makes apply to officers who obtain "special mention in tactics, as laid down for lieutenants in the Army." That is not the case. Every officer who has a (T) after his name has passed exactly the same examination as

that presented for field officer in the Army. The musketry course with which he has supplied us is, I am afraid, also incorrect, for it has been superseded by an entirely new course, introduced by Army Order of March 1st, 1895. The Militia recruit is now required to fire sixty-five rounds instead of seventy-seven, and the classification for marksmen, and first, second, and third class shots, is all altered. The same remarks apply to the trained soldiers' course, which is also altered. I am of opinion that the instructor of musketry in the Militia should be a subaltern, and not a captain. A captain is far better employed looking after his company than in acting as adviser to the regiment in musketry, and the difficulty of finding suitable subalterns is not after all so great. Objection is frequently raised to the appointment of a subaltern on the ground of his extreme youth, but if he were not appointed to the command of a company until he had some six trainings, that objection would lose its chief force. I need hardly say that the musketry instruction of the Militia is very far from satisfactory at present—it is too hurried a course to be capable of producing satisfactory results. It is a hopeless task trying to instruct the men in the short time at our disposal, and with the insufficient staff allowed us. According to Para. 56 of the Musketry Regulations, no squad for one instructor should exceed ten men; but in the majority of Militia regiments you will find that two sergeants have to instruct as many as eighty or ninety men. Last year in my own company I only had one sergeant on the permanent staff qualified to instruct, and there were about ninety men to look after. I had to take a rifle and instruct forty-five men on one side of the Barrack square, while my Colour-Sergeant performed a similar office with the other forty-five on the other side of the square. In such circumstances it becomes an impossibility to devote that individual attention which is so essential, if musketry is to be otherwise than a farce. Musketry is being gradually recognised as the most important part of our training; though there are still two sides to the question in its present phase. Most Commanding Officers attach very great importance to musketry, so long as it is properly conducted and not hurried over; but they are not prepared, while it is so scamped over, to let it take the place of useful, steady drill. Consequently, there are to be found Commanding Officers, some of the most distinguished we have in the Service, who are to be sympathised with if they still appear to attach more importance to the question of real steady drill than to indifferent shooting. I presume that the training of the Militia contemplates the contingency of its being, some day or other, brought into contact with an enemy. And in the modern system of fighting in extended order it is more than ever essential that the soldier should be a disciplined and courageous man, that he should possess a certain amount of independence of character and reliance upon himself, to enable him to advance in the face of the deadly fire of the modern rifle. If his training is not of such a character as to educate him to act mechanically in this manner from force of habit and the discipline of the parade ground—for few men are naturally brave—then the fact of his being the best shot in the world will avail him nothing. According to Prince Hohenlohe, a man may be said to be very well disciplined if, under a hot fire, he can be induced to bring his rifle up to his shoulder before firing. If this be the case with disciplined men, it is terrible to contemplate what will be the effect of men imperfectly disciplined and half-trained in musketry, trying to advance in the face of modern firearms. And it, therefore, becomes questionable whether, in sacrificing steady drill for a hurried and unsatisfactory course of musketry, we are not losing the substance for a shadow. The proportion of first and second class shots in the Militia is exceedingly small compared with those in the third class; a result solely and entirely due to the unsatisfactory manner in which the Militiaman is instructed, and not to any fault on the part of the individual. I do not agree with Captain Plomer's suggestion about the drummers on the permanent staff. A great many regiments, in the absence of any assistance from Government, depend almost entirely upon these men and boys for the nucleus of their band, which adds so

much to the popularity of a regiment. If a bugler is a necessity in the Regular Army, he is even more necessary for the Militia; and personally I should object to any such make-shifts as gongs or electric bells. These drummers and buglers are, as I said before, absolutely essential to Militia bands; and if they were sacrificed it would, I believe, injuriously affect recruiting. I now come to the question of the recruiting of lads. I have had some experience of boys acquired during the four years in which I have been Adjutant of a Volunteer Cadet Battalion in London, composed of working boys of all classes. Boys are very largely employed in London, and I believe also in Manchester, Liverpool, Birmingham, and other large centres. They are employed in various trades and chiefly between the ages of thirteen and seventeen. Between those ages there are really very few boys out of employment, except those who sell matches and newspapers in the streets—a class which it is not desirable to introduce either into the Army or Militia. When boys attain the age of seventeen they begin to look for higher wages, which their masters refuse, knowing as they do that boys, on boys' wages, are all they require. It is at this age that they find a difficulty in getting employment, and it is at this age that they are now taken in the Militia as growing lads, and I do not think that any good purpose would be served by lowering the age. I am afraid the recruiting for the Militia is not as satisfactory as it ought to be, and might be. We do not get the class of men that we used to attract. Most of our present recruits are lads between seventeen and eighteen years of age, and of a lower social strata than formerly. The class of men which, twenty-five years or twenty years ago, was to be seen in our ranks is now attracted by the superior inducements of the Volunteers. The Militia, I am sorry to say, is unpopular. I am certain it is unpopular, because I have been brought into contact with hundreds of young cadets in London in the last few years, and when I have suggested to any of them the advantage of enlisting in the Militia they generally laugh at me, and this notwithstanding the fact that they know perfectly well that I am a Militia officer. I am not exaggerating when I say that in London the Militia is looked upon as the depth of degradation. Eligible lads tell you things which it is absolutely impossible to deny. They say, "If the Militia is such a distinguished Force, and thought so much of, why are they not dressed like the Army and the Volunteers? Why are they sent out to be laughed at?" I am very loth to draw comparisons between one branch of the Service and another. I think it is a thing to be deprecated. At the same time, it is impossible to deny the fact that the class from which we get recruits does draw comparisons between one branch and another, and the comparison is always to the disadvantage of the Militia. And I feel sure that Sir Francis Grenfell would rather know the opinion which all Militia officers entertain than go from the room under an entire misapprehension. I know a great number of Militia officers, and I have invariably found the one opinion prevailing amongst them, that the Militia is not properly treated. The uniform, which is such an important factor in recruiting, is so disgraceful that I do not see how it is possible to expect a young man with any respect for himself to join the Force. The second-hand fatigue serge served out to him is usually more fitted for a mat than a British soldier's coat. In many cases it is worn out, and one mass of stains and dirt, and it is this sort of uniform that you expect a young respectable lad to wear. The Glengarries are, to a degree, hideous and shapeless, and the great coats never fit. I am sure Sir Francis Grenfell will forgive me if in these circumstances one is forced to draw comparisons between the treatment meted to the Militia on the one hand, and a junior Force—the Volunteer—on the other. On the one hand we have a young Branch of the Service, which has not been in existence more than thirty-five years, and which has not as yet had the opportunity of performing any particular service to the country. I don't say a word against the Volunteers. I have great respect for the Force; I know a great many of its officers, and have the privilege of num-

bering many friends amongst them, and I think they deserve all they get. But this does not blind me to the fact that the Force, whose obligations are very small compared to those of the Militia, have been supplied with the very best and very latest equipment, at a cost of £100,000, wrung out of the House of Commons in one day. They have the finest tunics, full head-dresses, and field-service caps. They have their General Officers and brigade staffs, their decorations and long-service medals. They have the advantage of brigade camps, battalion camps, manoeuvres, and everything necessary for their efficiency. On the other hand, we have the Militia, the oldest Force in the kingdom. It has been embodied upon eight different occasions, and proved its utility to the country. Its existence is absolutely essential to the Army in the present day. We have been told by the Adjutant-General that, in the present organisation of the Army, the Militia occupies a most important place. It will be absolutely essential to employ it in the event of any army corps being despatched from these shores; and how is this Force treated? In my regiment, for example, we are obliged to wear dirty brown belts which have been cast off by the Army, and the Volunteers will not touch; and the valises are quite worn out. We have no tunics, we have no full head-dresses, nor field-service caps. We have trained in the same field, with the exception of the year 1876, since 1858; we have never been outside it, and have no opportunity of learning anything beyond the ordinary routine; and I may safely say that one wearies of the monotony. One is apt to get less efficient every year instead of improving. I used to be very keen about my work, but the energy is being driven out of me, and I am in constant fear of getting slack from experiencing day after day, and year after year, the same monotonous, wearying routine, and I am afraid that a similar feeling pervades the whole Force. We feel that in Sir Francis Grenfell we have a friend, and for that reason I have not hesitated to say what every Militia officer, I know, feels. Unless you, Sir, are made aware of our requirements, it will not be possible for you to help us; and I don't think Militia officers can be considered unreasonable if they demand, not so much for themselves as for their men, some of the many advantages and privileges which their friends the Volunteers have been fortunate enough to squeeze out of the Government.

Lieutenant-Colonel J. BONHOTE (3rd Battalion Royal West Kent Regiment): I cannot too strongly urge the comparison which we have been permitted to make between the Volunteer force and ourselves, as regards the encouragement that we receive from the authorities. We receive, it is true, honeyed words, any amount; but I think the whole gist of the case lies in the last paragraph of Captain Plomer's lecture, "An attempt has been made to steer clear of any suggestions involving increased expenditure, as on that score alone they are pretty sure to be condemned." But why? The Volunteers do not steer clear of any suggestions involving increased expenditure. When they want anything they ask for it.¹ It is true that they have votes—I do not like to suggest that is the reason—but still it is always the fact that the Volunteers to a very large extent have a voice in Parliament, and we cannot get a voice. When Militia officers become Members of Parliament they seem to lose their voices as regards the Militia force. They say, "Yes, I agree with you, it ought to be done; but it is no use my saying anything in the House, because they never will do anything for the Militia, which creates expense." I think it is a great pity, and I hope some day we may see it altered. I should like to enter a mild protest against the remarks made by one of the officers about the "pint-and-a-half too much," that

¹ Far from blaming the Volunteers, whom I greatly admire and appreciate, for doing all in their power to obtain whatever they consider may increase the efficiency of their Force, I only regret that the Militia do not seem equally fortunate either in making their wants known, or, at all events, in having them attended to, expense always standing in the way, however willing the *Military* Authorities might be to take action in matters conducive to increased efficiency.

the Militiaman is said to be in the habit of imbibing. No doubt Militiamen are no better men than anybody else, but I do not think they are any worse. I have seen the most extraordinary change during the eighteen years I have been in the Militia, and I may say that sobriety is quite the rule in the battalion that I have the honour to belong to, and also in those I have come across. I have been several times brigaded with other regiments, and there have been no signs of anything approaching the "pint-and-a-half too much." I should not like that statement, therefore, to go out, without at any rate a mild protest. I do not agree with the lecturer as to the alternate trainings. It seems to me, as was suggested by one of the other officers, that there is a possibility in many cases of combining to a certain extent musketry and drill. I do not say that the month is sufficient, but there again comes in the question of increased expenditure. Instead of having alternate trainings, why should not we have six weeks' training, if it is necessary for the efficiency of the Force? No doubt it means expense; but why should the money be grudged if the efficiency of the Force depends upon it? I know that it is possible to a certain extent, in some cases, to combine drill and musketry, because, having the advantage of being near Hythe, the battalion to which I belong has for many years combined the two. They go down to shoot in the early morning, and manage to do some drill during the day, or *vice versa*. With regard to making the Militia more smart, I think the smartness should come from above—in the matter of dress, for one thing. I do not agree with doing away with the drummers, because I am sure in my battalion the band relies almost entirely, certainly for a nucleus, on the drummers on the permanent staff, and if you do away with them the expenses will be very much increased to the officers. Then again the question of expense comes in. When we go out for manœuvres, for instance, as we are about to do this year, the expenses come very heavy on the officers. Of course, they have the ordinary mess allowance, but still, for providing necessities even for a scratch mess the expenses amount to a very considerable sum; and I do not think it would be altogether unreasonable to expect the Government to make some small extra allowance on the occasions when regiments are sent on manœuvres, to assist in the additional expenses entailed thereby.

Colonel W. T. DOONER (Commanding 87th Regimental District): I am sure most of those who have heard the excellent paper of Captain Plomer will agree that he has made some very good suggestions to improve the popularity and efficiency of the Militia, and to increase its value, should it ever be required for active service. I am not one of those who, when called upon to inspect a Militia regiment, was rather surprised to see, as has been mentioned by one speaker, that the men were able to stand up in a row without falling down; but after some little experience my opinion is that the Militia, as a Force, is an excellent one, and is well deserving of all the assistance and support which can be given to it by all those in authority. I have been with General Officers when they inspected Militia regiments. I had to go through the ordeal myself, as an inspecting officer, last year, and I fear the lecturer perhaps did not consider it quite searching enough; but I think, when we consider that the Militia only have twenty or twenty-one working days in which to do all the work, and all the drill and musketry which has to be completed, that the result which is obtained is very satisfactory. Most battalions are complete, or fairly complete, in rank and file, and also in officers; and I think with regard to the latter—the officers—perhaps an improvement could be made in the higher ranks if regular officers who retired voluntarily from the Army—if an amendment were made to the Royal Warrant—that they should be called upon to serve in the Militia, if required. Now, I mentioned "if required," because I feel fairly sure in almost all cases, the captains or the majors will be found qualified to succeed to higher rank. But if this amendment could be made to the Royal Warrant, and also a slight addition to Article 82, it would, I think, be an advantage. A statement was

made just now that most Commanding Officers can easily obtain the services of officers who have been in the Regulars. I do not think, however, it is so easy if they are not compelled to serve. The amendment would involve a little expense, but, as one speaker said, why should this question of expense be stopping every improvement? The addition to Article 82 might be that captains would be given half-pay for fifteen years instead of ten years, and then we should, I think, be able to rely on finding captains for the companies, supposing the subalterns have not sufficient qualifications; and if we required officers for the high rank, we should be able to fall back on those Regular officers who have voluntarily retired from the Army. Captain Plomer has referred to so many points, that I cannot venture to discuss them all, it would occupy too much of your time; but there are a few on which I should like to make some remarks. One was with regard to pay and allowances of young officers depending on their obtaining certificate E 527. I think that it is a mistake to make the pay, etc., of these officers depend upon their obtaining that certificate; but there are some reasons in favour of that course. Then the lecturer has mentioned about the examination taking place on the day of inspection. The Inspecting Officer is generally, in most districts—I never have been able to see why—detailed as President of the Board, and he has to do that work in addition to trying to inspect the battalion satisfactorily. It is impossible to perform both duties efficiently. And further, he has this question hanging over him with regard to the young officers under examination, that, if he does not give them the certificate, they will not get their pay, etc. I do not quite read the Regulations exactly the same as the lecturer, because I think it is meant that these subaltern officers should get the pay for the training. I do not know that the point has ever been referred for decision by any Commanding Officer, but I think what the Regulations imply is, that they are not to get pay, etc., for the preliminary drill, but they are to get the pay for the training, whether the certificate is granted or not. With regard to having alternate years for training, one year for musketry and the other for the battalion drill, etc., that certainly is a question which requires much consideration before it could be adopted. Of course, we are all in favour of a sound musketry training. We agree with the old well-worn Hythe maxim, that a man who cannot shoot is an incumbrance to the battalion; but there is one advantage that would accrue if the alternate year system was adopted, and I think no one has mentioned it to-day. In the cases of battalions which have always to be trained away from their headquarters owing to no range being available, I venture to maintain if they could train in or near their own town occasionally it would be a great assistance to recruiting, and I think this is a point well worthy of consideration. I have a battalion in my district which for years has never trained in its own town, and whenever I speak about the recruiting not being satisfactory I always get the same reply, "We never train here, and we shall never get our regiment up to its proper strength as long as we do not." With a band in the town, and with the men dressed smartly going about, we should, I think, get a great many more recruits if only the battalion could sometimes train in its own locality. That is a point which ought to be urged in favour of this every second year proposal, and it would also avoid the "gigantic scramble" with regard to musketry which the lecturer has referred to. Captain Plomer has mentioned inspections. I think, perhaps, he ought to remember that sometimes inspecting officers do not want to be considered unreasonable. I hope there are now none of that class to which one speaker referred, who are astonished that a Militia regiment should be able to stand up in a row before them; but I think Inspecting Officers do not, perhaps, want to be considered too exacting, and they also usually find a large audience waiting, who, if the march past was left out, would, I fear, be sadly disappointed. It does not take more than five minutes. It is no test whatever, as we all know, and I am not in favour of this march past ordeal, and when I was in command of a battalion I seldom practised the movement; but I think Inspecting Officers do not wish to be considered unreasonable,

and do not desire to go too deeply into the various points with a Militia regiment, which has only had about twenty working days in which to prepare; and also sometimes time enters into the question, as there is generally, as has been pointed out, a great deal to be got through on the day of inspection. There is a matter which has not been mentioned by the lecturer, but to which I should like to refer, and perhaps get the opinion of some of my hearers concerning it, viz., with regard to the men being paid daily. Do Commanding Officers think that in cases of well-conducted men that this could be done weekly? because it appears to me, if it could, many men would leave most of their pay in, and thus go home with larger sums to their credit, and in this way would assist recruiting. I fear I differ with some speakers with regard to the clothing question, as I think the authorities are liberal in this respect to the men. We know they do not give them tunics or head-dresses—this latter, however, will soon be remedied; but under present regulations I think the men practically get a suit of clothing every second training. I saw many men in the battalions I have had the pleasure of inspecting, whose clothing had lasted so well that they did not require any new clothing, and I venture to think they should be allowed to draw compensation in lieu, if their captains and Commanding Officers considered their clothing was good enough to go through the training. Then with regard to the forty-nine days' drill, I would venture to suggest that it would be a good plan if an officer commanding a regimental district could be allowed in the cases of any men who are smart fellows and know their drill before the forty-nine days are up, to dismiss them to their homes. They would then go away with the balance of their forty-nine days' pay and allowances, and I think that would assist recruiting. There are many men who can do their drill in less than forty-nine days, while with others the forty-nine days are scarcely sufficient; but I think those who finish in a fairly satisfactory manner before this time has expired should be allowed to go to their homes. I beg to thank you for the kindness with which you have listened to me.

The CHAIRMAN (Major-General Sir Francis Grenfell): I regret to say that my time is very limited; I am obliged to be elsewhere in a few minutes, and therefore I must ask your permission to make a few brief remarks before I vacate the chair. I am sure we all most cordially thank the lecturer for the able way in which he has put the various questions before us. It is a great advantage to us who have to administer any branch of the Service to hear, as we have done to-day, the views of various Militia officers. It is also a great advantage to think that these remarks will be printed, and will remain on record, and that we know what your particular wants are, and the various points in the organisation in which you do not agree. I do rather regret that one or two speeches to-day have brought up the very old vexed question of Volunteers and Militia. I remember when I first took up my appointment at the War Office a great many officers kindly called upon me, and I was very glad to make their acquaintance. I remember a very eminent Volunteer officer saying, "Well, Sir, now that you have come here, we Volunteers will have justice, for on the whole your various predecessors have been far too much inclined to the Militia." After a short time I was called upon by a Militia officer, and he said, "Now I hope things will be changed. Lately the energies of the authorities have been devoted to the Volunteers, now I sincerely trust that there will be some attention paid to the Militia." Still, I think I need not assure you that everybody—from His Royal Highness down to the junior officer—in the War Office makes no difference between the Volunteer, the Militiaman, or any other branch of the Service. We have all got to do our duty to both Services, and when Colonel Bonhote says the Volunteer officers get money and the Militia do not—[Colonel BONHOTE: The Force, not the officers.]—the Force—I should like him to point out a case. There is a great deal in both Services which we fight for, and try to get; but I think the demands of the Volunteer force are much more frequent than those of the Militia, and the refusals have been almost as frequent as the demands. As regards the lecture it is not possible for

me, as being largely connected with the administration of the Militia, to speak as I should if I were not, in fact, rather muzzled by my appointment; but there are a great many things that I agree with in this paper, and some with which I cannot agree. Still they are all brought forward very clearly, and very well, and I am sure we are all very grateful to the lecturer for having brought them forward. The lecture has provoked an interesting discussion. As regards Lord Raglan's remarks, with reference to School, I am fully aware that the correspondence relating to School is very lengthened, and I should be only too glad if we could see some way of shortening it. At the same time we must remember that very often when we have arranged the School, and everything is ready, at the last moment we get telegrams from officers saying that they are very sorry, but urgent private affairs prevent their attending the School. I quite agree with Lord Raglan that if the delay is as he states, it might be improved, and that this is a case which we might investigate and see if it cannot be hastened. With regard to a Government loan of £500 to a Militia regiment for furnishing its mess—it would be very pleasant—I should believe it when I see it, but at the present moment though we may wish for it we can hardly expect it. I think he was a little hard upon Inspecting Officers. We must remember that Inspecting Officers nowadays, from the general officers downwards, have their duties so enormously increased that I really believe that a general officer commanding a district finds it almost impossible for him to carry out all the duties entrusted to him.

LORD RAGLAN: May I say a word? All I suggested was that there was no standard laid down as to what the Militia were expected to do, and therefore the Inspecting Officers had nothing to tell them as to what they ought to expect from the Militia.

THE CHAIRMAN: I think an officer with his head screwed on the right way ought to make out for himself what he ought to expect, and be able to report as to whether they had come up to the average expectation of an officer of experience in the Service.

COLONEL DOONER: Might I suggest that the confidential report gives them a perfect standard?

THE CHAIRMAN: Colonel Dooner mentions the confidential report. He knows exactly what he has to look for, and what to enquire about. I am very glad that the lecturer in mentioning the certificate has called attention to four regiments which are conspicuous for the number of officers who have obtained certificates—the Third Scottish Borderers, the Third Gloucester, the Third West Surrey, and the 3rd West York. There is not the slightest doubt that these regiments are commanded by exceptionally good officers, and it is the influence of the colonel we must look to much more than to any outside influences and pressure from higher authorities. It is the influence of the colonel which produces a large number of certificated officers. I could say a great deal about musketry practice, and I do most deeply regret that a statement which I made here a few days ago before a meeting of Commanding Officers, namely, that black powder was not to be used—a statement which I made after making enquiry at the War Office—was made as the result of misinformation; and I deeply regret that it was so. It appears that the Militia and all the English troops outside England who shoot with the Lee-Metford rifle are still to have this black powder. There are many millions of rounds that have to be got rid of, and they are to be so used. However, we have got them, and we are ordered to use them: and I deeply regret it. As regards the minor punishments, the proceeds of which the lecturer suggests should come back to assist their battalion in rations and groceries, I cannot at all agree with that suggestion. You might have a very bad regiment which had reduced its messes to 2½d. by means of the fines; and you might have an exceedingly good regiment lying alongside with no fines, and their mess would be 3d. or 3½d. I do not think that argument would do. I quite agree with Major Holden about recruiting lads: I cannot think that that would be any great

advantage. Our experience is that these very lads whom you would have to keep for a year and to spend a certain amount of money upon, and who would be only available for these very light duties, are the very class which, when they get to the age of seventeen, would be likely to enlist; and I think that the earlier year would be almost always thrown away. With regard to the dinner hour, we all know that the habit of the class from which recruits are drawn is to take their meal in the middle of the day. We catch them. They are kept up at high pressure, are working hard after the meal taken early in the morning right away through the day, and I doubt whether you could keep them through the day, unless they had something more than soup or tea in the middle of the day. I regret very much that I must leave this meeting. I thank you, gentlemen, for the kindness with which you have received my few remarks to-day, and I do thank the lecturer sincerely on the part of those like myself who have to administer these departments for the various points he has raised, and which I feel sure will eventually be further discussed and will be of value to the Service of which we are all so proud. I will ask Colonel Dooner if he will kindly take my place.

Captain PLOMER: I hope you will all join with me in thanking Sir Francis Grenfell for his kindness in coming here and taking the chair.

Sir Francis Grenfell then left the chair, which was occupied throughout the remainder of the proceedings by Colonel Dooner, Commanding 87th Regimental District.

Major R. R. COLE (5th Battalion the Rifle Brigade): I wish to refer to musketry. Now that we have to train at such large stations like Aldershot a number of Militia battalions as we did last year, viz., 13th and 14th Brigade and four other battalions, between 8,000 and 9,000, it seems to me a pity that we do not go through our musketry altogether with the whole of the battalion; that is to say, fire half the battalion at six in the morning and the other later on in the day. The result would be that we should be able to get our musketry all done by about two or three o'clock in the afternoon, and if we start our musketry on the Tuesday we should have it all finished in about six or seven days, that is to say, about the following Monday or Tuesday. The battalion would be handed over to the Commanding Officer to go on right through the drill. I have been in the Militia nearly twenty-two years; we go on in the same way as we did years gone by (except last training), and have two companies told off, and the whole thing is made quite a business, but if we could only fire in that manner by firing in half-battalions we should have more time for our third class shots. The number of third class shots is very great. Why? Because there is nothing done to improve the third class shots. The men could attend the parade early in the morning and the other morning parade, and then in the afternoon they could go down to the range and be put through the preliminary drill, and fire just the same as the recruits. Last year we applied for an aim-corrector. What was the result? "They are not to be issued to the Militia." It seems to me we ought to have aim-correctors to teach the men how to aim. With regard to dinner hour, I think the interior economy of a Militia regiment requires a great deal of looking after. I should like to divide the interior economy into three parts: 1st, Regimental Institutions; 2nd, Messing; and 3rd, Pay. 1st, Regimental Institutions: Look at our regimental institutions for the Militia. What is the recreation tent of the Government? Quite a small marquee, for about 800 men. In our battalion we have a tent about 50 feet by 25 feet, which is fitted up with tables covered with green baize, and with forms, papers, and games. I think that some kind of tent ought to be encouraged, in which the men could write their letters. It might be done by two bell tents, and the marquee allowed by the Government might be fitted up for the junior non-commissioned officers, who are not permitted to go into the sergeants' mess. Then, again, the dry

canteen and coffee-bar. I think the men should be encouraged to have half-a-pint of coffee, and some biscuits or bread, before going on parade early in the morning. It ought to be open at five o'clock in the morning. I think the men might have better breakfasts and dinners. In the evening we might have some kind of supper, so that the men should not go such a long time between tea and breakfast. It is a very long time, and that, I think, accounts for very much of the drinking which goes on. I think messing tents should be encouraged in the Militia. The pay sheets require simplifying, and I should like to draw attention to the sticks. I do not think that the men should be charged for sticks.

Major-General Lord METHUEN, C.B., C.M.G. (Commanding the Home District) : In the main I agree with the views taken by the lecturer regarding the Militia, and I am grateful to him for having brought the subject forward in a manner which is interesting and practical. The danger we have to look out for is expecting too much from this Force, and vainly hoping we may by dint of pressing obtain a longer period for the training. Not only do I not believe the authorities will face the extra expense, but what is more, I am not at all certain it might not have a bad effect on recruiting for the Militia. Let us attempt to do a little, and endeavour to do that little well. I very much question whether a great deal is gained by practising outpost duty, or even the attack formation, and whether the short time given to learning these two subjects would not be far better spent perfecting the Militia in musketry and steady drill. But have we adopted all the means in our power to make the best use of our twenty-seven days? In brain work, as in athletics, strength is of little use unless you have been taught how to best employ it. Are the Militia officers as a body as capable as they might be of imparting instruction, and making good use of the short time at their disposal? The lecturer answers this question. I have always felt Militia officers should be forced to go to a School of Instruction and to the School of Musketry. If I am told that such a course would deprive the country of a large number of officers, I answer I very much doubt the fact; but if I am to understand that there are a certain number of Militia officers who care so little for their profession that they have no intention of making themselves efficient, then the sooner we are rid of them the better. I am not alluding to the candidate for the Army, who for the time being is called a Militia officer, but for the *bond fide* officer who means to stick to his corps. If the musketry and drill are to show any marked improvement, this can only be achieved by the company officers being efficient. It is no longer any use leaving the work of the company officer in the hands of the adjutant and musketry instructor, and I am quite certain if the suggestions made in this lecture regarding the extra instruction to be given to an officer were in some degree adopted, the companies would have far greater confidence in the majority of cases in their own officers, thereby increasing in a marked degree the steadiness of the men on parade, and raising the present low standard of shooting.

Colonel DOONER: I trust I am in order, before I call upon Captain Plomer to reply to the various remarks that have been made, in saying that the principal points alluded to by Major Cole appear to me to be matters of purely regimental arrangement. I inspected three battalions last year; they were all in camp, and, as far as I recollect, the men all had a plate and a basin of some kind. I inquired how they got it, and I found they had been provided out of some fund, started probably from the canteen fund. With regard to the pay and checking the accounts, one reason why I ventured to suggest about the weekly payment was, because by that system I think it is much easier to check all these matters and to take care that everything is correctly charged to the men. Major Cole has evidently taken a great deal of trouble about the canteen fund of his battalion and is working it very well, if he is able to make £135 in a training; certainly he must be looking closely after the unexplained samples, and no doubt care is taken to have a locked till and to see that every farthing goes into it which is paid for the liquor consumed. There was a remark made concerning the want of sobriety

of the men. I must confess I do not agree with that, and I have had some experience. At Aldershot, I remember one regiment of Militia in which there had only been one defaulter during the entire training. It may be said the discipline was slack, but I know it was not so; the conduct of that regiment was surprising—I won't mention which it was—during the whole training. Of some 800 men, the colonel appeared to me to know every man in his battalion, his village, and everything about him. And in the battalions I have had the pleasure of seeing I must confess I thought them as a body wonderfully well behaved. Sometimes they set us in the Regulars a very good example in this respect. I will now call upon Captain Plomer to reply.

Captain W. H. P. PLOMER: Colonel Dooner and gentlemen,—Lord Raglan touched on the difficulty that officers have in going through courses. With that I most thoroughly agree. In my proposal in the lecture I certainly thought it would be better if officers had the certificate before they were promoted. I do not touch in any way on how it should be made easier for them to go through these courses. I should very much like the authorities, but it is for them, not for me to say, to make it easier for officers to go through their courses. I can quote many instances of the great difficulty which has been experienced. I know one captain who, for more than two years, had applied for every course at Hythe, but had never been able to go there. Every time he had to expend 5s. on testing his eyesight to see if it was good, but still he could not get there. Again, on another occasion five officers together said they would go if a school could be formed in Dublin, but the school was not formed. It was simply on account of the paucity of officers, they said; but if we could send five men from one regiment I should have thought we could have got a school formed somehow. I quite agree with Lord Raglan that it is as a rule extremely difficult for officers to get through the courses, however much they may wish it. As regards the musketry instructor being a captain, I should have no objection to that course if he were, as Lord Raglan suggested, seconded. The objection that I have is to an officer being taken away from his company which he should be looking after thoroughly, which he should be the father of, to teach the whole of the rest of the battalion musketry. Of course, if the officer is going to be seconded, that would be a matter of expense; and for that reason I did not suggest it, but suggested that the musketry instructor should be a subaltern. Of course, that proposal must be taken with the other portion of my lecture, where I wish the captains to be rather more senior, because in that case the senior subaltern would also be more senior, and probably the musketry instructor would be a more senior officer. I hope some day, not very far off, captains of Militia themselves will teach musketry as they do in the line, requiring no musketry instructor at all. I cannot see why they should not in a great number of cases; in fact, I believe we could do it now. There seems a general consensus of opinion against the alternate years for musketry and drill. If the Militiaman is only to fire five rounds as suggested, and when ranges are a long way off, I do not quite see how it can be got into the time. It would do very well when the ranges are quite close, but where the ranges are a long way off, as they are in very many cases, I do not see how the musketry will be got through. Of course, if we could get the Militia out for six weeks, I think it would be very nice. I should like it exceedingly, but that means more money, and I very much doubt myself in the great majority of cases whether it would be popular with the Militiamen themselves. Of course, I have not sufficient experience to speak of a great number of Militia regiments but taking one or two or three cases which I know of Irish Militia, where the Irishmen, not being able to find agricultural work, go over for the greater part of the year to Liverpool, Glasgow, Belfast, and various other centres of industry; they then say, "I should like to go back and see my native town," and it is the bounty which enables them to go back; they go back

and see their friends, and do a month's soldiering, and make very fine Militiamen. If the period of training was extended to six weeks, I very much doubt whether they would come; it would be too long for them altogether to get away from their regular work at Glasgow, Liverpool, and the other places where they live. There were many objections taken by various speakers to my proposals about the drummers. I did not hear any objections, however, made to the alternative proposal that the drummers of the permanent staff should have first served in the line for two years. By that proposal they would have obtained all the advantages which I hoped they would obtain the other way. As regards the withholding of the pay from an officer who is unfortunate enough not to pass, one speaker said that that only applied to the pay for the preliminary drill, and not the training. I dare say he is right, I dare say I am wrong; but I know one case in which it was certainly ruled against me by a paymaster, who said no pay would be issued at all till the officer had passed. As regards the training in one's own town, as to that I must certainly, as a recruiting officer, say it is most essential. The Militia battalions should occasionally train in their own town for many reasons: first, that the men could go and see their friends; secondly, it puts a certain amount of money into the hands of the people of the town. But again, on the other hand, I am equally against a Militia battalion training, as my own has, for nineteen consecutive years without ever going outside the town; the result is, no one probably knows anything about them far off. Major Cole, I think, advocated very much firing the battalions at musketry by half-battalions. With that I quite agree, and probably it is quite possible, and most desirable, with ranges such as at Aldershot, or any other large stations; but when we get to small ranges, such as the range we have had to shoot on, I do not think it could possibly be done, in fact, I am perfectly certain it could not be done. Where you have a large range at large centres, such as the Curragh and Aldershot, it is most desirable. We should then be able to hand over the battalions to the colonel after a few days' musketry. But the great majority of ranges on which the Militia fire are small ones, and not large ones, and therefore the proposal would only apply when we had the advantage of training at big centres. I quite agree with Major Cole as regards marquees for recreation rooms, and everything which will tend to keep the Militiaman in his camp, and make it a home, and make him enjoy himself. That, of course, is a matter for the authorities to give. They very often won't give it. "It is not applicable to the Militia." How often I have heard it said. As regards the distribution of rations which Major Cole advocated, that is a matter of purely regimental arrangement. As regards the sticks, in my own battalion it is not compulsory at all for a man to have a stick, except that if he buys a stick he buys one of a particular pattern. I know, I may say, a great number of companies where we carry out exactly what Major Cole suggested. These sticks, instead of being used for anything all the rest of the year, are collected, given in with the man's kit and tied up in bundles, and issued again next year. I do not suppose any man would ever be put to a greater expense than about 4d. for a stick. That is purely a matter of regimental arrangement. I agree with him as to the desirability of having plates and dishes of some kind for Militiamen to eat off. Anyone who has seen a regimental dinner served in a canteen in a muddy tent will see the advantage of having a plate; but it is quite possible to get plates from some regimental fund, and it is one of the most useful things to get. I beg to thank you for the kind way in which you have received my paper.

Colonel DOONER: I am sure I am carrying out all your wishes in offering our hearty thanks to Captain Plomer for the interesting lecture he has delivered and which has given rise to so useful a discussion.

Friday, May 10th, 1895.

Sir GEORGE BADEN-POWELL, M.P., LL.D., K.C.M.G., in the Chair.

THE ROYAL NAVAL RESERVE.

By Commander W. F. CABORNE, R.N.R., F.R.A.S., &c.

SIX years have elapsed since I had the honour of reading a paper on the subject of "The Royal Naval Reserve" in the theatre of this Institution.

Upon that occasion, after giving a slight account of the formation of the Force and the reasons that brought it into being, and having demonstrated the increased necessity that then existed for its continuance, the following were among the points put forward :—

1. That if it were thought worth while to have a Naval Reserve at all, it seemed to be advisable to try and bring it up to a modern standard of efficiency.

2. That it was a disgrace to the country, and a national scandal, that so little had been done to utilise our vast mercantile marine as a means of defence in time of war.

3. That an earnest effort should be made to bring to the notice of British ship-owners the national evils and dangers attendant upon the system of largely employing foreigners, and to urge upon them the importance of instructing the masters of their ships to engage Englishmen, when procurable, in preference to aliens (thus enlarging the recruiting ground for seamen for the Royal Navy in the event of hostilities).

4. That it was a matter for deep regret that the authorities did not embrace the opportunity of calling for volunteers from among the seamen of the Royal Naval Reserve for service in the Fleet during the late naval manœuvres.

5. That the Naval Reserve should be drilled at machine, quick-firing, and the lighter nature of breech-loading guns.

6. That Royal Naval Reserve Stokers should undergo annual drill, as was the case with other members of the Force.

7. That some of our war-ships, usually laid up, should be sent to the principal ports and used as drill-ships; the old hulks in use being abolished.

8. That direct entry in the rank of Lieutenant was not altogether desirable for various reasons.

9. That Gunnery Lieutenants should be appointed, as second in command, to those drill-ships where the officers principally attend for instruction; and also that they should be appointed to each district in order to inspect, at uncertain intervals, the drills carried on in the other drill-ships and batteries.

10. That Engineer Officers of the Royal Naval Reserve should be allowed to undergo a period of naval training upon conditions similar to those laid down for the Executive Branch.

11. That there would be no hesitation among the men with regard to coming forward for service in time of emergency.

12. That unless the *personnel* of the Royal Navy was largely added to in time of peace, the country would in time of war be greatly, and in an increased degree, dependent upon the services of the sailors of the mercantile marine as represented by the Royal Naval Reserve; and that it was imperative that no exertion should be spared and no stone left unturned that would in any way tend to the future welfare and increased efficiency of that body.

To-day, it is my desire to bring to your notice the great advance that has taken place in the organisation and efficiency of the Royal Naval Reserve since January, 1889.

However, before doing so, I will put some comparisons before you for the two periods, commencing with the Officers' List of the Royal Navy:—

Rank	Jan. 1889	Jan. 1895	+ or -
Admirals of the Fleet	3	4	+ 1
Admirals (other grades)	65	62	- 3
Captains	171	170	- 1
Staff Captains	15	15	..
Commanders	227	251	+ 24
Staff Commanders	99	67	- 32
Lieutenants	859	847	- 12
Navigating Lieutenants	15	..	- 15
Sub-Lieutenants	163	253	+ 90
Midshipmen	290	361	+ 71
Naval Cadets	30	43	+ 13
Chief Inspectors of Machinery	5	5	..
Inspectors of Machinery	7	8	+ 1
Fleet Engineers	72	100	+ 28
Staff Engineers	79	100	+ 21
Chief Engineers	94	69	- 25
Engineers	200	291	+ 91
Assistant Engineers	253	202	- 51
Engineers for Temporary Service	10	..	- 10

A perusal of the foregoing table will show that, although we have a number of young officers coming on in the Fleet, the same necessity obtains at the present moment for a Reserve of Officers that existed in 1889—in fact, the necessity is greater, looking at the number of ships that have been built during recent years.

Moreover, in the interests of the officers of the Royal Navy themselves, it is desirable that there should be a Reserve outside the regular line of the Service, for the prospects of the naval lieutenants as it is are

none too brilliant—only one out of every eight or nine can obtain advancement—and if their particular list were increased to any great extent the ratio would be still more unfavourable, for it is not probable that the country would view with complacency any large and unnecessary augmentation of the senior ranks with the sole object of causing a flow of promotion.

The following table gives the average effective strength of our naval forces for the years 1888 and 1894:—

	1888	1894	+ or -
Officers, Men, and Boys in the Fleet, etc.	46,114	60,835	+ 14,721
Officers and Men in the Coastguard	3,870	4,058	+ 188
Officers and Men in the Royal Marines	12,728	15,063	+ 2,335
Men in Seamen and Marine Pensioners' Reserve	2,484	4,385	+ 1,901
Officers and Men in the Royal Naval Reserve	19,051	24,191	+ 5,140
Officers and Men in the Royal Naval Artillery Volunteers	1,191	..	- 1,191
Total	85,438	108,532	+ 23,094

The Gross Naval Estimates for the official year 1895-96 amount to the sum of £19,613,821; and the following are provided for, the increase compared with the average number borne in 1894 being shown, and only the "Effective Vote" being dealt with:—

Officers, Men, and Boys in the Fleet, etc.	69,381	+ 8,546
Officers and Men in the Coastguard	4,200	+ 142
Officers and Men in the Royal Marines	15,363	+ 300
Men in Seamen and Marine Pensioners' Reserve	5,512	+ 1,127
Officers and Men in the Royal Naval Reserve	25,100	+ 909
Total	119,556	+ 11,024

In addition to those mentioned, all Pensioners, whose age shall not exceed fifty-five years, are liable to be called up for active service in case of war or any emergency.

To return to our main subject. In February, 1891, a Committee, presided over by the late Vice-Admiral Sir George Tryon, K.C.B., then Admiral-Superintendent of Naval Reserves, sat to enquire and report:—

"1. On the system at present in operation, the enrolment and maintenance of the Reserve Forces established under the Acts of Parliament 22 and 23 Vic., c. 40, and 36 and 37 Vic., c. 77, viz.:—the Royal Naval Reserve and the Royal Naval Artillery Volunteers.

"2. To enquire and report as to the numerical strength of the Reserve Forces which are so intimately connected with the Regular Naval

Forces of the country, with a view to the possibility of increasing their numerical strength and efficiency."

On April 7th, 1891, the Committee reported upon that portion of their enquiry which related to the Royal Naval Artillery Volunteers, in a sense unfavourable to the continuance of that body; and, accordingly, they were disbanded on April 1st, 1892.

On May 15th, 1891, the Committee presented its report upon the Royal Naval Reserve to the Admiralty, with a number of suggestions for increasing its efficiency and usefulness, most of which have been adopted, and the principal of which will be remarked upon in due course.

Suffice it for the moment to say, that the Committee placed on record that they could "see no reason whatever to doubt that the Royal Naval Reserve will loyally adhere to their engagements and present themselves for service when called out."

In January, 1889, so far as I am aware, there was not (except on board the district coastguard ships) a single breech-loading or machine-gun used in the instruction of the Reserve, but early in 1891 we find that fourteen 5-inch breech-loading guns, one 6-inch breech-loading gun, one Gatling, one Gardner, and sixty-seven Nordenfeldt machine-guns were so employed. Since then a certain number of quick-firing guns have been supplied, and, doubtless, something more has been effected in the direction of increasing the modern armament, although much remains to be done. However, I have no complete data upon this point.

An outcome of the Committee's report was, that in 1891 the Admiralty called for 300 volunteers from among the men of the Reserve to take part in the naval manœuvres. The notice given was very short—only three or four days—but 474 men joined; and although, owing to the season of the year and the limited warning, it is not probable that the best men were largely represented, they were, I understand, favourably reported upon. The same experiment was repeated last year, when 500 men were called for and upwards of that number embarked.

Direct appointments to the rank of lieutenant were stopped in 1892, and it is a question whether the time has not arrived when a similar veto should be placed upon direct entry to the rank of sub-lieutenant, the midshipmen's list apparently being quite capable of providing all the officers required for the higher grades.

I may mention that the midshipmen's list is recruited from among the cadets of the "Worcester" and "Conway," and direct appointments are also made to it from the mercantile marine.

In the case of the cadets a stiff examination has to be passed, and they are also selected on account of their all-round fitness; in the case of direct entries—many of whom, it is true, have passed through the training ships, but have not been eligible for appointment to the Reserve until they have been one year at sea—these very proper rules are not, at any rate as regards the scholastic test, enforced. This seems to me to be a grave mistake, as all the youngsters should most certainly be required to comply with one fixed minimum educational standard.

In accordance with another recommendation of the Committee, a Retired List has been instituted for the officers who have served on the Active List, as is the case in the Royal Navy, and all honorary rank in the future has been abolished, except in the case of honorary paymasters and honorary assistant-paymasters—who are registrars and deputy-registrars of the Royal Naval Reserve.

This abolition of honorary rank is a step in the right direction, for the less there is of an honorary character about the Force the more it will be seriously accepted as a fighting body.

I must confess that I should like to see the honorary accountant officers placed on the Active List, for while they would, of course, be useless for service on board ship, through lack of the necessary training, they at the present time enrol the men, pay them their quarterly retainers, give them leave to proceed on foreign voyages, and in time of war would be required to collect the Reservists belonging to their respective districts—all very responsible and active duties.

In 1889, I expressed the view that those officers should be brought directly under the Admiralty, as regarded their Reserve duties, and that the Registrar-General of Shipping and Seamen and the Board of Trade should cease to take any active part in what may be called the civil management of the Force. Time and further experience have shown me that I was wrong as regards the Registrar-General of Shipping and Seamen, and I am now of opinion that without the assistance of that official the Service could not be satisfactorily maintained; moreover, from personal knowledge, I am well aware that it owes much to the zeal and energy of Mr. J. Clark Hall, the present occupant of the post.

Upon the same occasion, I commented on the absence—so far as I could ascertain—of any workable and reliable scheme of mobilisation for this branch of our naval defences, but I understand that this defect has now been effectually remedied.

Following another suggestion of the Committee of 1891, new "Dress Regulations" for the men were issued in 1893, to the following effect:—

(a) Each man belonging to the First Class (and Corps of Firemen) will, on enrolment, and on his first appearance for drill after each future re-enrolment, be supplied with a suit of uniform clothing, consisting of one cap and ribbon, one blue serge jumper with sleeves, one pair blue tartan trousers, one black silk handkerchief, two flannels, and two collars, which he will be required to wear during each period of 28 days' drill.

(b) Each man belonging to the Second Class will receive on each engagement, and on the third year after each engagement, a suit of uniform clothing, the same as supplied to the First Class man.

(c) Each member of the Third Class (Boys) will receive a suit of uniform clothing on joining a sea-going ship, and then another every alternate year.

This new departure will render impossible such a scene as once came under my notice on board one of the drill-ships many years ago, when I

beheld a man, wearing his belts and cutlass in hand, repelling imaginary boarders, arrayed in all the glories of a silk hat.

The sum provided in the Navy Estimates for 1895-96 to cover the cost of the Royal Naval Reserve (including pay, allowances in lieu of provisions, uniform, pensions to the men, etc.) is £282,206.

It is indisputable that the leading characteristics of an auxiliary force should be efficiency to perform the duties that may be required of it in time of national emergency, comparative youth,¹ and relative cheapness; everything considered, I do not think that the amount mentioned can be looked upon as excessive when compared with the number of officers and men enrolled, and, as I have said, the main object of this paper is to demonstrate the advance that has been made during recent years with a view to attaining that efficiency which is so desirable and necessary.

The next table shows the strength of the Officers' List in January, 1889, and January, 1895:—

Rank	Jan. 1889	Jan. 1895	+ or —
Lieutenants	51	303	+ 252
Sub-Lieutenants	117	382	+ 265
Midshipmen	137	373	+ 236
Senior Engineers . . . . .	..	38	+ 38
Engineers	14	117	+ 103
Assistant Engineers	4	41	+ 37
Total	323	1,254	+ 931

It will be noticed that the whole Active List has been increased about four-fold, and the Engineer Officers' section of it about ten-fold, during the period under review.

Looking at this great and recent expansion, and the policy that now prevails, it may be interesting to recall to memory a portion of some evidence given by Commander (now Captain) H. J. Challis, R.N., in November, 1869, before a joint committee appointed by the Admiralty and the Board of Trade to enquire into the working of the Royal Naval Reserve Regulations, which doubtless reflected the views of many naval officers at that time, in which he said:—"I object altogether to the principle of officers of the Mercantile Marine being employed in the Naval Reserve, as I consider there is a sufficiency of naval officers who are well fitted for the work."

Again, ten years later, in November, 1879, Admiral (now Sir) Augustus Phillimore (K.C.B.), wrote to the Admiralty:—"It is desirable that the list of Royal Naval Reserve officers, both active and honorary, should be

¹ On the 31st of January, 1891, the average age of the First Class was 33 years and 6 months; Second Class, 27 years and 9 months; Third Class, 19 years and 1 month; and Stokers, 31 years. The total average being 30 years and 7 months.

confined to a very limited number, so as to include only those noted for professional knowledge and distinction, capacity for service in case of war, and of social worth."

In January, 1889, only two lieutenants (Lieutenant Ball and myself), five sub-lieutenants, and two midshipmen, had undergone twelve months' training in the Royal Navy, although several other officers had gone through short courses in gunnery and torpedo, and had served in Her Majesty's ships during the summer cruises.

My next table shows the progress made in this direction, the particulars being extracted from the "Navy List":—

January 1st, 1895.

Description of Service	Lieutenants	Sub-Lieutenants	Midshipmen	Total
Served twelve months in the Fleet, and obtained Certificates in Gunnery and Torpedo Schools (entitled to Retaining Fee)	24	7	..	31
Served twelve months in the Fleet, and obtained a Certificate in the Gunnery or Torpedo School (entitled to Retaining Fee)	20	11	2	33
Served twelve months in the Fleet (entitled to Retaining Fee)	36	37	16	89
Obtained Certificates in the Gunnery and Torpedo Schools, and served during short cruises in the Fleet	6	1	..	7
Obtained Certificates in the Gunnery and Torpedo Schools	4	3	..	7
Obtained a Certificate in the Gunnery or Torpedo School, and served during short cruises in the Fleet	4	4	..	8
Obtained a Certificate in the Gunnery or Torpedo School only	8	10	..	18
Served in the Fleet for short cruises only	13	4	15	32
Total	115	77	33	225

On the same date, twenty-one lieutenants, twenty sub-lieutenants, and eight midshipmen, were serving in the Fleet (several of them for a second period of twelve months), in addition to officers going through short courses in the Gunnery and Torpedo Schools.

In the drill-ships greater strictness is shown in the granting of "Test Certificates"; and the regulation that officers who do not drill for four consecutive years shall have their names struck off the list is being more rigidly enforced.

A very different state of affairs, truly, to February 15th, 1882, when H.R.H. the Duke of Edinburgh, K.G., then Admiral Superintendent of

Naval Reserves, reported to the Admiralty :—"I find that, with few exceptions, the officers are unable to give the time required to attend regularly to drill ; hitherto, no importance has been attached to their drills, and their names have been allowed to remain on the list as non-efficients."

While chronicling this great advance, I regret to say that a few officers have failed to obtain certificates when attending the gunnery and torpedo courses ; and, under such circumstances, it would seem to be desirable that some reduction should be made in the remuneration given, as those who do not exert sufficient energy to "pass" inflict an injury both upon the State and the Reserve.

The bringing together of naval and mercantile marine officers on board Her Majesty's ships is doing an infinite amount of good in more ways than one ; and the prejudices which undoubtedly did exist on both sides, and may possibly still exist in a limited degree, are being rapidly swept away.

It cannot be too thoroughly understood that the Royal and Mercantile Navies are absolutely and wholly dependent upon one another.

Without a large and powerful navy for its protection, our mercantile marine would not long exist ; without the mercantile marine there would soon be little for the navy to protect ; without the mercantile marine, owing to the geographical conditions of the empire, naval and military operations upon an extensive scale would be out of the question ; and, moreover, the country is entirely dependent upon the mercantile marine for its food supply—and without food no defence would be possible.

The next table shows the strength of the men's roll :—

Description	Jan. 1889	Jan. 1895	+ or —
First Class	9,435	10,770	+ 1,335
Second Class	8,969	10,674	+ 1,705
Third Class	312	250	— 62
Stokers (Old)	439	296	— 143
„ (New) .. .. .	..	1,283	+ 1,283
Total	19,155	23,273	+ 4,118

The foregoing list is only twenty-seven men short of the number provided for in the estimates for 1894-95, and, including officers (1,254), we had, on the 1st January, a grand total in the Royal Naval Reserve of 24,527 officers and men, as against 19,478 in 1889—or a net increase of 5,049.

It is not my intention to go into any details as to the extent of our recruiting ground for the various classes, but Sir George Tryon's Committee estimated that the First Class might be increased by 3,000 or 4,000 men under the existing regulations, and that a very considerable number

could be added to the Second Class. Personally, I have always advocated a principal increase in the latter section, on account of its cheapness.

The Old Stoker Class was found to be very unsatisfactory, and, acting upon the advice of the previously-mentioned Committee, it is being allowed to die out, a new body being enrolled under modified regulations issued in September, 1893.

The qualifications for the New Firemen's Corps are :—

1. That a candidate must be a British subject, free from infirmity, and of good character.

2. He must not be under twenty-one nor above thirty-five years of age.

3. He must prove two years' service at sea, at least one year of which as "fireman and trimmer," "fireman," or in a higher stokehold or engine-room capacity. The discharges produced must show V.G. character for ability and conduct, and the applicant must declare that it is his intention to follow the sea service for at least five years from the time of his engagement.

Men who enrol in this section are required to drill for twenty-one days during the first year of their enrolment, and for fourteen days during each subsequent year. The members of the Old Class of Stokers were, and are, not permitted to drill at all, and the other classes have to drill for twenty-eight days in each year.

An earnest effort is now being made to induce the seamen and stokers to volunteer for a period of training in the Fleet; and so important is this matter, that I think it advisable to quote the Admiralty circular :—

"Men of the First and Second Classes of the R.N.R. and Firemen can be embarked in H.M.'s ships for training for a period of six months, and at the end of six months they may, if they wish it, be retained for another six months, but not for more.

"Travelling expenses will be paid, or free passes granted to their respective ships, and back to their homes, and an allowance for food and lodging when meals are not provided at the public expense in travelling by land or water, at the rates authorised for seamen by the Queen's Regulations.

"The conditions of Service are as follows :—

"PAY.—First Class men and A.B's of the Second Class will receive 1s. 7d. per day; Second Class men, 1s. 3d.; and Firemen, 2s.

"If sent to hospital or sick quarters, pay will be allowed under the same conditions as to non-continuous seamen of the Royal Navy.

"CLOTHING AND BEDDING.—All men will be credited with a sum of £4 5s. to provide themselves with the following articles of clothing and bedding, which they must take up in addition to their R.N.R. kits; but no

further sums will be placed to their credit, although they may volunteer for a second period of six months :—

1 Jersey	2 pairs Socks	1 Blanket
1 Comforter	1 Sennet Hat	2 Bed Covers
1 pair Trousers, serge	1 Sennet Hat Case	1 Bag, duck (Clothes)
2 pairs Trousers, duck	1 Cap	1 Bag, Soap
2 Jumpers, working	2 Cap Covers	1 Bag, Brush
1 Jumper, duck	2 Cap Ribbons	1 Set Combs
1 Frock, serge	2 Towels	1 Scrubbing Brush
1 Frock, drill	1 Type	1 Clothes Brush
2 Check Shirts	1 pair Boots	2 Blacking Brushes
2 pairs Woollen Drawers	1 Knife	1 Ditty Box
1 Cholera Belt	2 Lanyards	24 Clothes Stops
	1 Bed	

"Clothing, soap, and tobacco can be purchased on board at low rates. Provisions will be provided at the Government expense on the same scale as for seamen of the Royal Navy.

"ALLOTMENTS.—Men will be permitted to make allotments of their pay in favour of any person they may name in the United Kingdom, the Channel Isles, Isle of Man, Malta, Gibraltar, and Halifax, N.S., and, when abroad, to remit home a large portion of their pay.

"RETAINING FEE.—The payment of retaining fee will be continued to a man during the period of his training in the Royal Navy.

"Men embarked for training in the Royal Navy will be drafted to ships in the Channel and Mediterranean Squadrons, and on the North American and West Indies Station.

"The period of training will commence from the date of a man's arrival on board the ship to which he is assigned, but he will be paid from the date of his embarkation for passage to his ship, and when he has completed his training he may be discharged abroad or brought home, according to his own wishes.

"Men who are entered on the Mediterranean Station will be discharged on that station at the termination of their engagement, unless the ship in which they are serving is coming to England, or an opportunity occurs of sending them home by man-of-war, should they wish it. They will not in any case be entitled to claim passage to England at the expense of the Admiralty.

"Pay in all cases will cease on discharge abroad, or on arrival in England, should a man elect to be sent home.

"Each period of training will reckon as a drill of twenty-eight days for a year, and will qualify a man for the payment of his retaining fee. A twelve months' course of training (embracing two periods of six months each) will consequently reckon as drill for two years.

"The exemption from twenty-eight days' drill will not affect his title to the uniform clothing which a man under his Royal Naval Reserve engagement is allowed; for instance, if a Second Class man is serving in the Royal Navy on the third year of his engagement, he will still be entitled to draw hereafter his suit of uniform clothing then due, although he may not appear for drill in the usual way."

At the end of last year, two members of the First Class, fifty-eight of the Second Class, and one Stoker, were serving for six months in the Royal Navy, and four of the First Class were going through a gunnery course in the "Excellent."

These figures are small; however, everything must have a beginning, and reference to the First Lord's statement will show that many more men volunteered during the first two months of the present year, and it is hoped that this new departure may lead to great results.

It should be mentioned that men who perform voluntary service have the opportunity of qualifying for Petty Officers' ratings in the Fleet when called out for active service.

The ordinary rates of wages, etc., now paid to the different classes of Naval Reserve men are as under:—

Description	Annual Retainer	Drill Money per diem*	In lieu of Provisions per diem	Lodging Allowance per diem
First Class . . .	£ 6	1s. 4d. to 1s. 5d.	1s. 4d.	4d.
Second Class . . .	£ 3 5s.	1s. 1d. to 1s. 5d.	1s. 4d.	4d.
Third Class . . .	..	7d.	1s. 4d.	4d.
Stokers (Old Class)	£ 5	1s. 9d.	1s. 4d.	4d.
Stokers (New Class)	£ 6	1s. 9d. to 1s. 10d.	1s. 4d.	4d.

When Second Class men embark on board district ships (nineteen days) in lieu of undergoing drill ashore, they receive from 1s. 1d. to 1s. 5d. per day, and a gratuity of £1 10s.

The remuneration of men embarked for the manœuvres is:—

Description	Daily Pay	Monthly Allowance
First Class . . .	1s. 4d. to 1s. 5d.	£1
Second Class . . .	1s. 1d. to 1s. 5d.	£1
Stokers . . .	1s. 9d. to 1s. 10d.	£1

Each First Class Naval Reserve man and each member of the New Corps of Firemen is entitled to a pension of not less than £12 per annum, upon certain conditions, on reaching the age of sixty—or at any time if incapacitated—always provided that if he joined above the age of thirty he must have served for a period of fifteen years, or for twenty years if he joined under that age.

"Trained Men" who have belonged to the First Class for ten years—or for seven years should they have been called out for actual service by Royal Proclamation, and have served for two or more years in the Fleet—if fit in point of age, and other respects, are eligible for appointment to the Coast Guard, where they can remain until the age of 50,

*The higher rates include 1d. per day for "Trained Men," and in the case of Able Seamen in the Second Class—a very small number—an additional sum of 3d. per day.

when they will receive their Naval Reserve pension at once, provided they are of good character and have served for ten years.

It is frequently stated that, in the event of war, a large portion of the men would not be available for service for a very considerable period; two writers, the other day, said that two-thirds of them would be absent, and another critic put the number at one-third. The next table will show the erroneous character of their views, as the number that would not be forthcoming at short notice is under 5,000. The table being made up from the men's quarterly reports, agreements of ships, etc., is as correct as it is possible to make it.

I have more than once pointed out that the men abroad would be available for service on foreign stations, and so do not intend to enter further into this portion of the subject to-day.

Whereabouts	First Class	Second Class	Third Class	Firemen		Total
				Old	New	
Estimated to be employed Fishing, or in the Home Trade, or at Home	7,966	9,609	179	177	567	18,498
Absent in Foreign-going Ships, available in six months, or under	2,530	837	41	104	699	4,211
Absent in Foreign-going Ships, available in from six to twelve months	118	88	11	...	9	226
Number discharged, deserted, etc., abroad	150	82	19	15	7	273
Serving six months in the Royal Navy	2	58	...	...	1	61
Appointed for Gunnery Course ...	4	...	...	...	...	4
Total	10,770	10,674	250	296	1,283	23,273

It is sometimes said that the men are backward in their attendance at drill; but that is not so.

I may state that their retainers are only payable upon the production of a certificate from the naval officer in charge of a drill-ship or battery that the requisite drill has been completed, and, as a matter of fact, during the year 1894 10,680 of the First Class, 10,532 of the Second Class, 246 of the Third Class, and 1,241 Stokers (new corps) were drilled. Now, as 296 men belonging to the old class of Stokers were exempt from this duty, we find that out of a total of 23,273 only 278 were not forthcoming, and the absence of the majority of the latter number can probably be satisfactorily explained.

Prior to the trooping season of 1894-95, all the Indian troop-ships, with the exception of the "Malabar," were abolished, and the transport duties have since been entrusted to the Mercantile Marine, the vessels chartered for the purpose being commanded (with one exception), officered, and largely manned from the Royal Naval Reserve; this arrangement released a number of officers and men of the Regular Service

for duty in fighting ships, helps to encourage the Naval Reserve, and, doubtless, effects a great saving of money to the Indian Government.

It is to be hoped that all the masters and officers of similar transports, hereafter, will be selected from the Reserve, and that a clause making such a course compulsory will be inserted in the different charter-parties, and strictly enforced.

In another direction, arrangements have been made whereby about half of the ordinary crews of some of the Reserved Merchant Cruisers will, in future, be Royal Naval Reserve men.

The next table gives some particulars regarding the Reserved Merchant Cruisers :—

RESERVED MERCHANT CRUISERS.

Name	Tonnage		I.H.P.	Approx. Speed Knots	Annual Subsidy	Owners
	Gross	Net				
Campania	12,950	4,974	30,000	22'	£7,500	Cunard Co.
Lucania	12,952	4,975	30,000	22'	4,375	Do.
Himalaya	6,898	3,597	10,000	18'	3,375	P. & O. Co.
Australia	6,901	3,590	10,000	18'	3,375	Do.
Victoria	6,091	2,990	7,000	17'5	2,438	Do.
Arcadia	6,188	3,175	7,000	17'5	2,438	Do.
Teutonic	9,984	4,269	16,000	21'	7,263	White Star Co.
Majestic	9,965	4,270	16,000	21'	7,396	Do.
Empress of India ...	5,905	3,003	10,000	16'5	7,313	C. P. R. Co.
Empress of China ...	5,905	3,003	10,000	16'5		Do.
Empress of Japan ...	5,905	3,003	10,000	16'5		Do.

ADDITIONAL VESSELS HELD BY THE FOREGOING OWNERS AT THE DISPOSITION OF THE ADMIRALTY WITHOUT FURTHER SUBSIDY.

Name	Tonnage		I.H.P.	Approx. Speed Knots	Owners
	Gross	Net			
Etruria	8,120	3,690	14,500	19'5	Cunard Co.
Umbria	8,128	3,699	14,500	19'5	Do.
Aurania	7,269	4,030	9,500	17'	Do.
Servia	7,392	3,971	10,000	16'5	Do.
Britannia	6,061	2,949	7,000	17'5	P. & O. Co.
Oceana	6,188	3,175	7,000	17'5	Do.
Peninsular	4,972	2,712	5,000	17'	Do.
Oriental	4,972	2,712	5,000	17'	Do.
Valetta	4,904	2,781	5,000	16'	Do.
Massilia	4,902	2,742	5,000	16'	Do.
Rome	5,545	3,022	6,000	17'	Do.
Carthage	4,879	2,454	5,000	15'	Do.
Ballaarat	4,748	2,663	4,500	15'	Do.
Parramatta	4,756	2,681	4,500	15'	Do.
Britannic	5,004	3,159	5,200	16'	White Star Co.
Germanic	5,008	3,150	5,200	16'	Do.
Adriatic	3,888	2,458	3,600	15'	Do.

* *Nautical Magazine*, February, 1894. The "Campania," "Lucania," "Teutonic," "Majestic," "Empress of India," "Empress of China," and "Empress of Japan" have twin screws.

In his Explanatory Statement of the Navy Estimates for 1894-95, the First Lord of the Admiralty made the following remarks with regard to the Royal Naval Reserve :—

" A marked advantage has been gained by the Gunnery Lieutenants of the Coastguard ships visiting the R.N.R. batteries to afford a few days' instruction, and most satisfactory reports are received of the efficiency of the men and their fitness to take their place as part of the crew of a man-of-war.

" There is every cause for satisfaction at the condition of the Force, both as regards officers and men."

Again, in his Explanatory Statement for 1895-96, he says :—

" The number of officers who have made themselves efficient by varying periods of service in the Fleet is 283, against 248 at the end of last year. The lists of executive officers are now full, and 104 eligible candidates for entry had to be refused in September last. The Registrar-General has since received applications from 102 officers of the Mercantile Marine for entry into the Royal Naval Reserve.

" As regards Engineer Officers, the numbers enrolled are close upon those provided for in the Estimates of last year. The further increase of these officers, as well as a modification in the terms of their engagement, is now under consideration.

" Arrangements have been made to enable officers to obtain a second year's training afloat. Hitherto it has been limited to one year on board a man-of-war.

" The First and Second Class Reserve men are practically up to the full numbers voted. Firemen, attracted by the new regulations issued in 1893, have presented themselves in such numbers that the entry of men has had to be restricted to the very pick of the Mercantile Marine ; provision will be made in the coming Estimates to add 400 to the list, which will bring the total number of firemen up to 2,000.

" Up to 1889 difficulty was experienced in completing the force of the Royal Naval Reserve men to the number desired, but since then the applicants have been steadily increasing in number. This shows how popular the Force has become among the seafaring population of the United Kingdom, and it may be confidently stated that under proper arrangements the Force might be largely increased if the necessity should arise.

" Provision was again made to embark 500 men for the naval manœuvres, and many more than that number volunteered for service. They were embarked in forty different ships, and, on the whole, good reports were received both as regards conduct and efficiency.

" Provision has also again been made for embarking Royal Naval Reserve men for six months' training in the Fleet, and although the conditions of such service have only just been issued, 236 men have volunteered for the training.

* * *

" The goodwill of the shipping companies and owners has contributed

materially to the steady progress of the Royal Naval Reserve, both as regards officers and men.

"Very encouraging reports are constantly received from the drill-ships and batteries as to the efficiency of Royal Naval Reserve officers and men, and there is much reason to be satisfied with the present condition of the Force."

Before concluding, I should like to make one or two suggestions calculated, in my opinion, to further add to the efficiency of the Royal Naval Reserve.

The first is, that the officers should be eligible for appointment to the Royal Naval College, Greenwich, for a course of study, upon conditions similar to those under which they are now appointed to the "Excellent" and "Vernon." At the present time, it is true, they are permitted to study at the College, but they are entitled to neither pay nor subsistence money while so doing; hence, very few (if any) are in a position to avail themselves of the educational advantages offered there. However, the privilege might be restricted to those who had undergone twelve months' training in the Fleet, or, at any rate, to those who had passed through the gunnery and torpedo schools and had obtained certificates, and it might be made a condition that those who failed to pass would only receive half-pay.

Also, I would once more suggest that Royal Naval Reserve engineer officers should be permitted to undergo training in the Fleet, upon conditions similar to those laid down for the executive branch; and if those officers are to be of any real service in time of emergency, this course appears to be imperative. I may add that Sir George Tryon's Committee reported in favour of the proposed innovation.

The Lieutenants' List being now full, an entire block of promotion is threatening; while, under the regulations, the age for compulsory retirement of officers from the Active List is as follows:—

Lieutenants	..	..	..	..	..	..	55
Sub-Lieutenants	..	..	..	..	..	..	50
Senior Engineers, Engineers, and Assistant-Engineers							55

In order to stimulate promotion, and at the same time to maintain a comparatively young and active body of officers, I beg to advocate the necessity of lowering the age for compulsory retirement by at least five years.

At the outset, the proposed change might press rather hardly upon some officers almost qualified for promotion on retirement; accordingly, the regulations might be relaxed for a time in exceptional cases, that is, in cases where officers had exhibited considerable ability and manifested much zeal for the welfare of the Service.

Lastly, I would strongly urge that the utmost care should be exercised in making appointments to the Reserve, and that officers who are found to be in any way unfitted for their position should be unhesitatingly removed from the list; and this is a matter of vital importance in the true interests of the Force.

Since preparing this paper, I have read, with much pleasure, in the April number of *On Watch*, an article entitled "Is the Royal Naval Reserve Efficient?" by Commander the Hon. H. N. Shore, R.N., which is well worthy of perusal by those to whom the question is of interest. To my mind, the article is an oasis in the sandy desert of the criticism that is so frequently showered upon the body to which I am proud to belong—criticism too often put forward in the most airy manner by persons who have devoted very little attention to the matter.

Of course, I do not assert for one moment that the Reserve is perfect, and I am well aware that much remains to be done in order to bring it up to a proper standard—that is, to a high standard of excellence—accordingly, in conclusion, I can only express the hope that, if at any future time it should be my privilege and good fortune to bring the subject before you again, I may have an equally satisfactory account to give of the continued progress, both in efficiency and numbers, of the Royal Naval Reserve.

Admiral CLOSE: I should like to say a few words on the subject of the lecture. I may introduce myself to the Chairman and meeting as honorary commander of the late Bristol Royal Naval Artillery Volunteers, a force which you may remember was disbanded on account of the report of the Committee presided over by Sir George Tryon, and I may here add that among naval officers generally it has been a source of regret that that corps was disbanded. It had served its purpose before the Naval Reserve came to the front, and as the Naval Reserve sprang into existence as a naval body, the R.N.A. Volunteers, who were not sailors, were not considered of any further service. But I think I may be allowed here to observe, that the first Sea-Lord of the Admiralty assured me at the time, that, if all the Naval Volunteer brigades throughout the country had been up to the same mark as the Bristol Brigade, they would never have been disbanded, the difference being that the Bristol Brigade was always commanded by naval officers. Amongst naval officers generally this disbanding was considered a great mistake, because the force was recruited from mechanics whose training made them men of intelligence, and of a higher intelligence I may, perhaps, say, without belittling the Naval Reserve, than those seamen who now form the Naval Reserve. I cannot call them sailors. The Naval Reserve is a most useful force, and we are under considerable obligations to them and to the lecturer and others who support it. It is our only reserve at present, and as we now, I hope, are on the high road to man the Navy with Regulars, I hope the day may come when the Naval Reserve will be no longer required, because, after all said and done, and all we can say in their favour, they are only amateurs. The lecturer has pointed out how necessary it is for the Merchant Service to encourage the employment of English seamen instead of foreigners. Such a point is impossible to maintain so long as our Commerce has to meet the opposition of lower rates from foreign nations. For this reason, perhaps, more than any other, the Naval Reserve should be looked upon with some doubt, inasmuch as the English seaman is a decreasing quantity year by year. We find foreigners taking their place, not only because they are better seamen, but because they are more amenable to discipline. The lecturer has referred to the subject of stokers. There I go all the way with him. We cannot have too many of them, and they do not require to have any of that skilled knowledge in the treatment of our guns, which are so very mechanical at the present day, and which renders the use of them so difficult that it has been said by many naval officers that though the Naval Reserve may be a very good thing to show in the face of the French Naval Reserve, who are so much more numerous than our own—five to one—that though it is very useful for that

purpose, still, when it comes to man our ships, and they are all strangers on board, it is feared that they would be more in the way than they would be of use. It is, perhaps, hardly right for a criticiser to mention such matters in the face of a lecturer who has taken so much pains to lay before us the present state of the Naval Reserve, but I do not wish to disguise the truth, and I feel sure the lecturer will be the last person to wish me to do so. I only wish that the Naval Reserve were so drilled and so able to take their place on board Her Majesty's ships that we should no longer be obliged to go to the enormous expense of employing and increasing our Regular forces. We have an increase this year of 5,000. I hope the day will come when we shall have sufficient Regulars not to require the assistance of a Reserve of—am I wrong in calling them amateurs? I hope the day may come when we shall see an increase to our marine force of 10,000 men. The Army was increased not long ago by 10,000 men. I would have those 10,000 men taken from the Army and given to the Navy, in the shape of marines, who should garrison Portsmouth and Plymouth, our naval ports, in the same way as the French ports are garrisoned. In that way, on the outbreak of war, they would simply have to march on board our men-of-war and their places would be taken by the Volunteers and the Militia. The enormous expense we must incur, in order to man our fleets, is so great that, as the Chancellor of the Exchequer warned the House of Commons only the other day, there must be some limit to the increase, entailing, as it does, so heavy a demand upon the country. Until our Regular force is increased, and we are able to man our ships with our own men, I wish every success to the Naval Reserve. The lecturer has informed you that there is no fear of these men not coming forward when they are wanted; that there are so many thousands of them, stalwart fishermen, no doubt; but can you imagine these stalwart men, who are accustomed to go about in great sea-boots, being active enough to work the guns?—and you who have seen them know the necessity for their activity. They are born for slow movement and their brain is of a slow description also. The same I may say of the seamen on board steamers. What is their life at the present moment? Is their brain ever active? Are they like the men—I like referring to them—of my old Naval Volunteers, men whose brains are active and employed every day to think and act for themselves, whereas, these men, I fear, have dormant brains, who have nothing to do from the time they leave the coast of England, perhaps, until the time they reach the coast of America, but to swab the decks. I feel some difficulty, perhaps, in belittling a force which has been so ably recommended by the lecturer, but I do so for fear the public should imagine that a Naval Reserve can possibly take the place of Regular men. If I may draw a comparison for a moment from the late war in China, imagine the Chinese Fleet manned by Chinamen, brave men, for I have fought them myself—I know what they are worth. Can you imagine the Chinese Fleet manned by your Naval Reserve men and the Japanese Fleet manned by your Regulars of the Royal Navy? The outcome would be the same—defeat. And that will be the end of our fleet if ever we are dependent entirely upon the Naval Reserve against those efficient Naval Reserve men of the French Navy. If our Naval Reserve men had the same advantages as the Naval Reserve men of France then we should feel that trust in them that we all wish to feel in our fleet.

Captain ANSON: I had not intended to say anything with regard to this subject, but I must say I cannot agree with the gallant Admiral who has spoken last. He seems to take this sort of view of the Naval Reserve:—

“It is all very well to dissemble his love,
But why does he kick them downstairs?”

At one time he says he is grateful for their being, and then he says that they are—well, almost useless.

Admiral CLOSE: A stop-gap!

Captain ANSON : He says also that they are amateurs. Well, they are amateurs in one meaning of the word—that they love the Service, and they work very often for very small pay. Then again, the gallant Admiral spoke about soldiers taking the place of sailors.

Admiral CLOSE : Marines.

Captain ANSON : Marines or soldiers. The Reserve have got sea legs, at any rate. Fishermen, even if slow, are accustomed to work about in boats, and you do not want a fellow, directly he gets on board a ship, to lie down in the lee-scuppers and be sick.

Admiral CLOSE : Marines do not get sea sick.

Captain ANSON : I think, judging from my experience, there is no doubt whatever of the ability of the Reserve ; it is a question of the willingness of the Reserve. And, with regard to this subject, I should like to ask the lecturer if he can give us any information as to why, at the conclusion of the late naval manœuvres, when I believe 500 first class Reservists were embarked, and an offer came from the Admiralty that any of them could serve for six months in the fleet, not one first class Reserve man, as I understand, at that time accepted? From what I can gather, only two first class Reserve men are now serving in the fleet. I would like him to tell us, if he can, whether there are any grievances which he is acquainted with, which could be removed, or whether we should offer further incentives to these men to serve for a short time in the fleet. I have lately been employed in the Coast Guard at Ramsgate for six years, where there are a very large number of fishermen, and very fine fellows they are—men who would be most useful as a Reserve force ; but when I have spoken to them on the subject of joining the Reserve, they have always said, "What is the good of joining the Reserve? The nearest battery would take us one-and-a-half hours to get to, so that we should have three or four hours every day wasted, and when we come home for our five weeks at Christmas we cannot afford to lose that time." I think it would be very beneficial to the country if where there are a number of fishermen frequenting a port there was a battery within closer distance, particularly at Ramsgate.

Lieutenant CRUTCHLEY : I had no intention of speaking on this matter, but I can scarcely let the remarks of Admiral Close go by unchallenged, because, having necessarily a great deal to do with the Merchant Service, I know the Merchant seaman thoroughly, and I am convinced that the British seamen we have in the Merchant Service now are as good as ever they were. They are not prime seamen, perhaps, in the way of dealing with masts and yards, but, for the work they have to do, they are as good as ever ; and of this I am convinced, if these men are ever called out, and have to serve, they will give a very good account of themselves. I have seen some of these men drilling, and I will back them with any men of the Regular Service. Of course, you cannot compare the men with the Regular Service as a whole, but if you pick them you can pick a good many that are as good ; that I am convinced of. If you can have Regular troops or men, so much the better ; but no country on earth could stand the strain, or, at any rate, England could never stand the strain of supporting seamen in sufficient numbers to man her war vessels. In case of war we must rely upon our maritime strength, other than the Regular Navy. Captain Anson mentioned a subject which came under my notice in the last manœuvres, as to why the men did not join the Regular Service when they had the chance. The fact of the matter is the man goes to sea for what he gets—the pay—and if they can get 30s. or £2 more a month in the Merchant Service, they cannot afford to serve in the Navy for honour and glory ; and I think that is the real reason why men do not volunteer into the fleet when they have the chance. At the same time they would be *eager* to serve in case of war, and would undergo any privation rather than fail to fulfil their duty.

Captain CABORNE : I was somewhat astonished to hear Admiral Close state that the Royal Naval Artillery Volunteers had served their purpose before the Royal Naval Reserve sprang into existence, for, as a matter of fact, the latter force was raised under Act 22 and 23 Vict., cap. 40 ; while the former one was raised under Act 36 and 37 Vict., cap. 77—or, in other words, the Naval Reserve had been established between thirteen and fourteen years before the Artillery Volunteers came into being. It may be that the gallant Admiral was thinking of the Naval Coast Volunteers (raised in 1853), of whom the late Mr. W. S. Lindsay, M.P., wrote many years ago :—"The Royal Naval Reserve has materially superseded the old Reserve known as the Naval Coast Volunteers, which, it was found, included men in every trade and profession under the sun, except that for which they were intended, and many of whom were of no trade or profession whatever, having no place of regular abode except the county goal or local prison, where they were found when their period for drill musters arrived." The Naval Coast Volunteer Force died out in 1873—the same year that the Royal Naval Artillery Volunteers were established. I had no intention of bringing the late Royal Naval Artillery Volunteers into this discussion, but, as they have been mentioned in comparison with the Naval Reserve, I must express the opinion that I would much prefer to go to sea with the latter, rather than with the former ; in fact, had I been called upon to sail with a crew of Volunteers, I should have insured my life very heavily. I have no desire to flog a dead horse, but I hold in my hand the Report of the Committee presided over by the late Vice-Admiral Sir George Tryon, K.C.B., one of the ablest Admirals of the present half-century, which gives a table showing the very miscellaneous character of the occupations followed by the members of the late Artillery Volunteers, of whom only an extremely small percentage appear to have been seamen.

Admiral CLOSE : An incorrect report.

Captain CABORNE : It is an official document, and so I must accept its statements. With respect to Captain Anson's question regarding First Class men serving in the fleet, I understand that some are now so engaged, although I am unable to give the number. As Lieutenant Crutchley—whose remarks I fully endorse—has stated, the difficulty experienced in getting the men to volunteer for a period of training at the end of the last naval manœuvres was principally caused by the offer of insufficient pay, they being able to do far better in the Mercantile Marine ; however, the new regulations being a little more liberal, it is to be hoped that they will attract the men, and, as we have seen from the First Lord's statement, some 236 members of the various classes had come forward at the beginning of March.

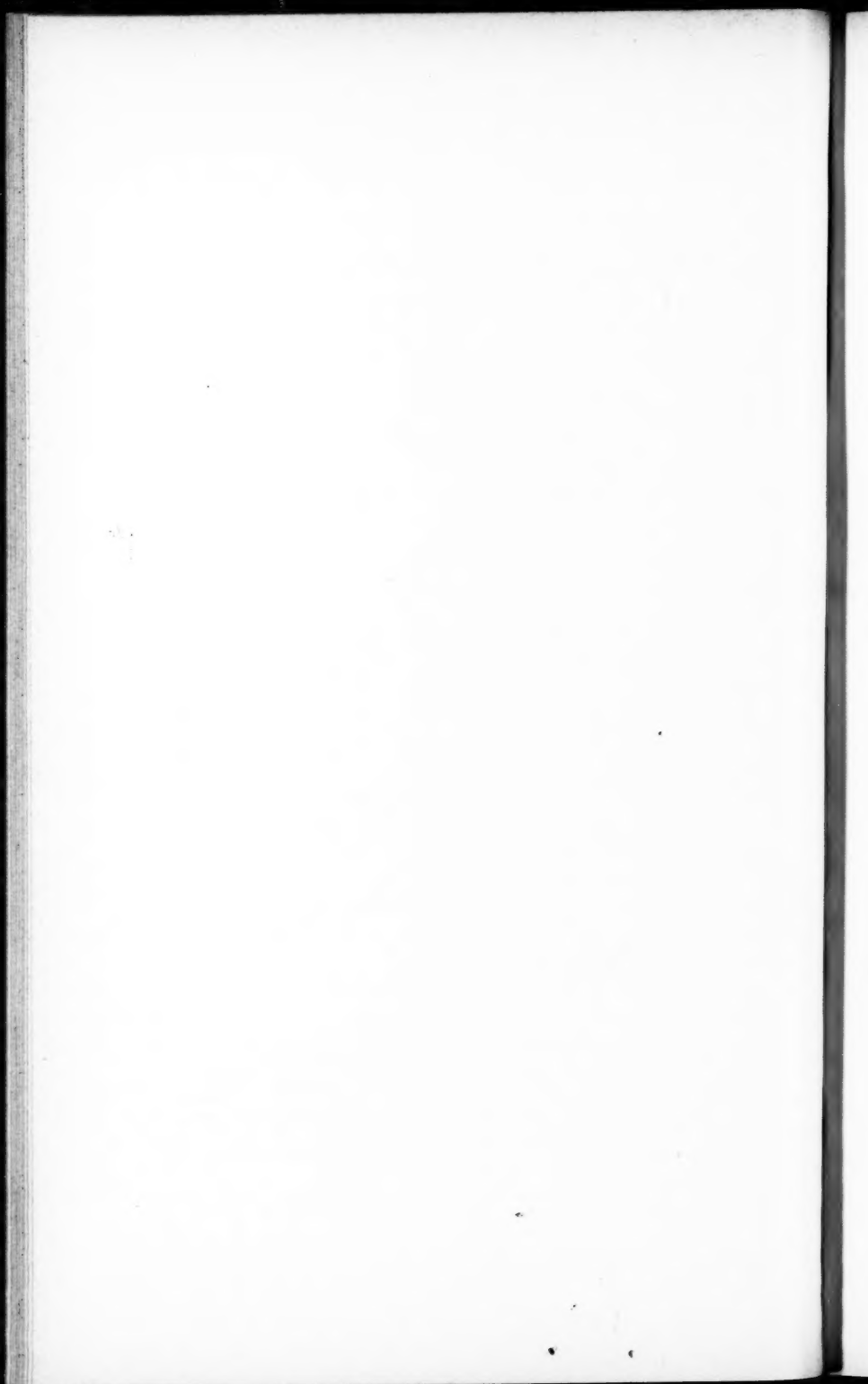
The CHAIRMAN (Sir Geo. Baden-Powell) : I believe it is usual for the chairman on these occasions to make some remarks on the subject brought forward. I do so the more willingly because I have for many years past felt a very great and absorbing interest in the very important question that has been put before us to-day. And in the very few remarks I wish to offer to you, I should like to call attention to two points : the one is the extraordinary importance of this question ; and the other is its very complex character. I think we are all very grateful to Captain Caborne for having given us so admirable a statement of the present condition of the Royal Naval Reserve, and we are very grateful to the gentlemen who have joined in the discussion, for pointing out what are the defects, and what some of the remedies for our present failure in regard to the Royal Naval Reserve. Of course, these two questions are very separate, and I feel myself, as a member of the House of Commons, that that House is strangely lax, and I think most unpatriotic, in not giving more of its time and attention both to the present condition of the Naval Reserve, and to the policy with regard to what should be adopted for the future—but adopted at once. The reader of the paper has given us not only an account of the Reserve as it

stands, but also one or two suggestions of the highest importance. We have had a great reform with regard to our naval affairs in passing the trooping service over to the Mercantile Marine, and I think our friend makes an admirable suggestion in saying those troopers that are now employed by contract or charter should be largely, if not entirely, manned by officers, and I would venture to suggest, by men of the Royal Naval Reserve. Before going into detail—in fact, I do not intend to go into any detail—I think the public ought to bear in mind the complex nature of this problem. The main feature is this: that the Navy, especially with its increased number of ships, which I for one think absolutely essential, has not enough men or officers to man those ships in time of war. We can man a certain number of them in time of peace, but in time of war we are hopelessly incapable of manning them with anything like efficient or trained crews, and in the term “crews” I include both officers and men; and we have to consider further, the various duties to be performed on a man-of-war, and I may say this, though it may appear vanity, that for a civilian I have certainly spent more of my time, not only on the ocean, but in men-of-war, than I suppose any other civilian. I may say, as a point of personal interest, that one of my very first voyages as a boy in a “trooper” was in company with Captain Caborne. I will not say how many years ago—Captain Caborne makes the grey hairs on my head stand up when he says thirty years ago. But, I do know from personal experience we have to deal with two very complex divisions of this subject. We have to consider how we can get a reserve of officers, which is a very different matter to getting a reserve of men; and we have to know how we are to get a reserve of seamen, that is to say, educated men, and how we are to get an engineers’ complement, men below deck; and then we have to divide our attention between what I call combatant officers and navigating officers. The First Lord has told us we already want more than 200 lieutenants, 200 engineers, and more than 16,000 seamen. When we see this we do see the magnitude of the question that has been put before us to-day. I will only add, I do not see how the present organisation of the Royal Naval Reserve can provide us with anything like the sufficiency in numbers that we ought to get in time of war. I would also allude to the efficiency of those who must be called upon to supplement the trained men and officers of our Navy; and here I would, perhaps, point out that there are four functions on board a modern man-of-war: handling the vessel, fighting the vessel, navigating the vessel, and driving the vessel. They are four functions completely different one from the other, and I cannot help throwing out the suggestion I have often thought of, that, at all events, from our Mercantile Marine we may, without doubt, transfer to our Navy at any time men of even more experience than our own naval officers in handling big vessels, in navigating big vessels, and in driving big vessels. I believe that the engineers of our great steamship lines are more capable of driving vessels at high speed for long periods than even the engineers of our Royal Navy are. And again, in handling big steamers, especially in a seaway, we know our great mercantile lines do continuously drive their ships, especially in bad weather at sea, at a speed, and with a continuity of that speed, which is absolutely unknown in our Navy. In navigation, of course, we have officers who are personally conversant with almost any port or any area of ocean you like to name on the world’s surface, and these would be a most invaluable addition in time of war, when we all know buoys are taken up, or still worse, are placed in other positions, and when lights are put out; and in other ways, any man who has been driving a mercantile fleet in and out of these harbours or rivers as his profession for many years, would form an invaluable officer on the quarter-deck, or on the bridge of a modern man-of-war engaged in those seas at a period of war. I therefore venture to think in handling, in navigating, in driving, we can look to our Mercantile Marine to supply an admirable staff of officers. But in regard to the fighting, there I am not so sure, but I am convinced from the experience I have seen not only of our officers, but

of all our whole fighting portion of the crews of men-of-war, including all the various petty officers and rank and file—I say I am certain from what I have seen myself, not only in peace, but of certain war services I happen to have participated in, that our officers and men are, I believe, more efficient for fighting purposes than any force ever known to history, and I speak of our officers and men at the present moment. Well now, ladies and gentlemen, I do not wish to detain you. The subject is one which I have studied very much, and on which I have thought a great deal. I will only put before you one other point which comes out of what the gallant Admiral said about the Royal Naval Artillery Volunteers. In my view—and I have given a great deal of thought to this question—I do think in our coasting population, that is to say, the population who are engaged in fisheries and the coasting trade, we have an admirable reserve to draw upon, but I do not know that they are an admirable reserve for sea-going purposes. For the purposes of coast defence, however, and for the purposes of torpedo-boats, torpedo-catchers, and especially for scouting in small and swift vessels, our fishing population, our pilots, and I will say this after considerable experience of them, in the 30,000 men who man our pleasure yachts, and especially that section of them who are accustomed to racing yachts, we have a class second to none for purposes of maritime coast defence. And I think that if our Government—and I allude to the Government of any party—would devise some system of utilising these men, analogous to the Royal Naval Artillery Volunteers or Naval Coast Volunteers, if we had a force of that kind to defend our coasts, and this is not the first time I have mentioned this, we should, as it were, relieve our Navy; we should allow our ships manned for sea service to go where they always ought to be in all naval contests, that is to say, to go to find their enemy and beat him when they find him. We have had, I think, an invaluable paper upon a very important subject, and the discussion has brought out some of the many points connected with it. I do hope you will all agree with me that our gratitude is due to Captain Caborne for having given us this admirable summary of this question, and that we shall all leave this room determined, if possible, to do more than we hitherto have done in the cause of providing an efficient and a sufficient Reserve for our first line of defence.¹

¹ It seems hardly fair to institute too minute a comparison between the Naval Reserves of France and England, for in the former country compulsory service is in vogue, thus giving great advantages both in numerical strength and efficiency. To advocate the introduction of a similar system into Great Britain would be but "ploughing the sands"; accordingly, we must be content to make the best use of the means at our disposal, comforting ourselves with the reflection that in time of emergency "one volunteer is worth two pressed men."

As, so far as I am aware, it has never been proposed—and is never likely to be proposed—that any of the regular fighting vessels of the Royal Navy should be entirely manned by the Reserve, which is primarily intended to form only a portion of such ships' companies, Admiral Close's hypothetical case with regard to the Chinese and Japanese fleets appears to fall to the ground.—W. F. C.



“LESSONS TO BE LEARNED FROM CAVALRY MANŒUVRES”— CAVALRY DISTRIBUTION AND ORGANISATION.

By Colonel F. J. GRAVES, late 20th Hussars.

IN his paper on the first part of the above heading, Colonel French invited discussion on the subjects of Cavalry Distribution and Organisation in the following terms:—"I venture to offer it as a *primary* subject for discussion whether a great deal more could not be done, and greater efficiency attained, under a different system of organising and distributing the cavalry in the United Kingdom and in India."

Unfortunately, the time allotted to speakers during the discussion quite precluded the possibility of dealing adequately with such important questions. I venture, therefore, to submit the following remarks upon them.

My chief object in dealing with these matters is to reach the ears and gain the serious attention of the Service Members of Parliament, and, through them, the attention of the other Members. This is a tax-payer's question in the main. The difficulties surrounding the solution of these questions are chiefly political and financial. The chief military authorities are quite aware of the shortcomings of our system of cavalry organisation and distribution; they require no convincing. Those who have the power of the purse strings do require convincing, and until they are convinced, and find the necessary funds, the British cavalry must struggle on under difficulties known to the cavalry of no other first-rate Power in the world.

Our cavalry has received much attention and has been the object of considerable criticism in the public press during this last year. I admit at once that there is great room for improvement, that there are often obvious but remediable shortcomings; but, at the same time, I assert that if the cavalry were placed in a position to obtain more practice the causes for adverse criticism would vanish. It must be admitted that when regiments go first to Aldershot from "out-stations" where the drill grounds are very limited, or from stations where they have been split up into a number of detachments, they are usually found to be "slow," irregular as to maintenance of proper intervals and distances between squadrons, that there is a certain degree of looseness about their movements, and a general want of cohesion in their ranks. These failings are to be observed in the case of regiments ordered from such stations to cavalry manœuvres, and are the more obvious owing to their being placed alongside of, or opposed to, regiments of the Aldershot Brigade, which have outgrown these failings through practice together over a large extent of ground.

Thus, the first portion of the time allotted to cavalry manœuvres is consumed in knocking such corps into shape; in fact, the time is taken up in *drill* to a great measure, and not in *manœuvres*.

Many of the shortcomings of the British cavalry are, to my mind, to be traced to our systems of organisation and distribution, and on both these points we compare most unfavourably with other first class Powers.

To take the question of organisation first.

In 1883, Major-General C. B. Brackenbury, in a lecture on "Tactics" at the Royal United Service Institution, said, "We have not nearly sufficient cavalry. . . . You have not the courage to stand up and say that the English cavalry is deficient in numbers, in organisation, etc."

With regard to *numbers*, the following table is instructive. It shows the proportion of cavalry to infantry in the countries named:—

Austria-Hungary -	-	1 to 3'8	Germany -	-	-	1 to 4'5
Russia -	-	1 to 4'2	Italy -	-	-	1 to 7'3
France -	-	1 to 4'4	England -	-	-	1 to 7'7

Exclusive of dismounted cavalymen, of which we have an absurd proportion, we have but 1 cavalry to 11'7 infantry!!! Comment is needless.

With regard to organisation, I quote a still higher authority, H.R.H. the Commander-in-Chief, who said at Aldershot, on April 17th, 1890, "I only hope that, so far from there being a reduction made in the cavalry, there may be a very considerable increase in the force—not in regiments, but in the establishments of regiments."

How do we stand from this point of view?

We have seven regiments with only 280 horses, of which a certain proportion are under age and unfit for active service; one regiment with 300 horses, one with 325, and two with 350.

First Army Corps regiments, home, have 410 horses; those for active service, home, 511 horses, including 54 draught and pack animals; for abroad, they have 530 horses, including 73 draught and pack animals.

The table given above shows clearly how unfavourably we compare with other first-rate Powers in the matter of the *proportion* of cavalry to infantry. The following table shows how unfavourably we compare with the same Powers in the matter of war strength of the *individual units*:—

	Squadron.	Regiment.	Division.
Russia (Line) -	-	143	859
" (Guards) -	-	143	572
Germany -	-	135	540
Austria -	-	146	876
France -	-	133	665
England -	-	106	424
			2,544

Thus, a squadron of British cavalry meeting a squadron of any of the above Powers on active service would be outnumbered by some thirty to forty men; a regiment would be outnumbered by from some 200 to 450, and an English division would be outnumbered by an average of more than 1,000!!! What would be the result?

What is the state of the case when war is declared? In 1882 four regiments were required. It was impossible to find in the kingdom four regiments with 424 horses fit for active service; so four regiments of a strength of 365 horses were sent. One was made up easily enough from the three household cavalry regiments. To make up the others with efficient horses nearly every other regiment was denuded to such an extent that they were for the time rendered unable to take the field for ordinary parades. For instance, one regiment had to give up some 200 horses, and the 4th Hussars were left some 117 horses, including remounts; twenty-eight officers of other regiments were attached to the brigade, and, in the first reinforcement of men sent out, no less than twenty-one regiments were represented.

Again, in 1885, instead of sending out one regiment complete, a wing was taken from two regiments, and to make up those wings to war strength, in men and horses, the other wings of the regiments concerned were plucked bare. Our present condition is this, that if we were involved in a war, and were called upon to put a division of cavalry and the necessary divisional cavalry into the field, the regiments would have to be so made up that officers would find themselves in command of very many men whose faces and names and peculiarities they would be ignorant of, and men would be riding horses they had never seen before; besides which, to effect even this, all the other regiments would be denuded of their best men and horses, and left in a pitiable state of inefficiency, their losses to be made good by reservists, recruits, and horses registered by the Remount Commission.

I therefore respectfully echo the words of H.R.H. the Commander-in-Chief, and say that we require "a considerable increase . . . in the establishment of regiments."

The remedy is simple, but, owing to the circumstances surrounding the question, the application of the remedy is a matter of great difficulty.

The remedy. It is a *sine quâ non* that our squadron, regimental and divisional strength of rank and file, should at least equal the average of other first-rate Continental Powers.

It is essential that each regiment should have a fifth or dépôt squadron, to which, in case of war, all young and over-age horses and recruits should be posted, and from which the four service squadrons should be made up to war strength.

This remedy applied would carry out the expressed desire of H.R.H. the Commander-in-Chief, and would do away with the necessity of depleting to a condition of inefficiency the remaining corps. We should gain increased efficiency, our units would be raised to the average of the units of other Powers, and the proportion of cavalry to infantry would be increased.

The obstacles to the application of the above remedy may be placed under three heads:—Distribution, financial, and political.

Colonel Brookfield, M.P., asked the late Secretary of State a question

in the House of Commons a few weeks ago as to the numerical strength of British cavalry regiments, and he was informed that certain corps on war footing had 581 men and 511 horses, and that others had 634 men and 530 horses.

Where are these regiments???? I reply, "on paper," and on paper only. I state further that, owing to our lack of proper barrack accommodation and our present system of distribution, there is not a single cavalry barracks in the United Kingdom that would contain a regiment of men and horses of anything approaching such numbers.

In our largest barracks we can only just fit in 424 horses, including remounts and those not fit for active service through age or infirmity. A declaration of war would involve a shuffle all round; to get rid of the old, infirm, and young horses and men; to replace them from other regiments by efficient, and, further, to find accommodation for the balance between 424 and 530 horses to be obtained from the 'bus companies and other large proprietors.

To the ordinary taxpayer, squadrons and regiments are unknown quantities, and it should be explained that our present numbers and barrack distribution are based upon the needs and circumstances which obtained and ruled in days long past.

In times past, when the police force, urban and county, was not what it is now, when means of communication were incomplete, when railways were non-existent, when riots and strikes were frequent, it was necessary to split up cavalry regiments into detachments and locate them for police duties as required. It was further supposed that the necessities of recruiting work required that the cavalry should be divided into "samples" all over the country. The question is—Is the bulk of our cavalry at home to be maintained as an auxiliary police force scattered about in fragments, or as a force to be organised, located, and trained with a view to the efficient expression of its functions in war?

I contend that the latter should be the object aimed at; that our present system of distribution effectually prevents its attainment.

We have twenty-one cavalry regiments stationed at home, for which we have but sixteen headquarter stations. There are twenty-one quarters for detachments away from headquarters. This means that more than half the regiments are split up; that thus the commanding officer cannot exercise that personal control over his corps he should do; that the regimental system is injured; that in some cases it converts the headquarters of a corps into a mere dépôt to train men and horses for duty at the out-stations. To show the extent to which this miserable system may be carried, I mention the case of a certain regiment. Between the years of 1879 and 1889, three commanding officers never had the whole regiment on parade during their several terms of office; a fourth had the regiment concentrated for but three months; a fifth for but five months, and the sixth for but one year.

How can regiments subject to such circumstances drill and manœuvre as they should?

Further, the drill grounds attached to most of our cavalry stations are utterly inadequate for the proper training of cavalry.

What is the remedy? In reply, I quote the words of a high authority, H.R.H. the Duke of Connaught, who, at a lecture on cavalry at Aldershot, spoke as follows:—"In regard to the training of cavalry, I think everyone will agree that the main difficulty arises in the peculiar distribution in our big towns, where in times gone by, the civil authorities insisted upon cavalry being stationed for police duties in aid of the civil power. I shall rejoice to see the day when the Government *will sell these barracks and provide others where the cavalry may be concentrated*, and where they will have suitable ground to drill and manœuvre on, and thus be able to learn their proper duties. At some places where I have been stationed it has been difficult to do anything in the way of movements. In one barracks—I refer to the old barracks at Liverpool—it was impossible to wheel a squadron into line. In such places as these it is impossible to properly train our men. If we wished to exercise the troops in reconnoitring, there would be little or no chance, as it took the best part of half-a-day to get out of the town and back again. Pressure will doubtless be brought to bear for the establishment of stations where the cavalry can be properly trained, for unless they are properly trained they are useless. At present the difficulty in the way of the proper training of our cavalry *lies with those who hold the purse strings, and cannot easily be persuaded to loose them.*"

Yes! it is a question of "the purse strings." The military authorities are alive to the necessities of the case, but how are the purse strings to be undone?

The civilian authorities must be convinced. The old barracks must be sold; new ones must be built in such places where two regiments and some horse artillery can be stationed, with plenty of ground available for training, etc.

This cannot be accomplished in a day. It must be done gradually and after mature consideration; yet I think when done it will be found less expensive than would appear at first sight, because most of the old barracks occupy very valuable building sites, and when sold should bring in a large sum towards the necessary outlay. The balance would be nothing compared with the increased efficiency of the cavalry arm.

To the obstacles presented by distribution and finance considerations must be added, as I said before, the *political* difficulty. The moment a suggestion is made to remove a cavalry regiment from a station, or to do away with a headquarters, the tradesmen of the place send a round robin to the municipal authorities imploring their intervention on the ground of "loss of trade"; the municipal authorities then beg the intervention of the local Members of Parliament, on the ground not only of "loss of trade" but also of "loss of votes"; the local M.P.'s then interview or head a deputation of brewers, publicans, bakers, and butchers, etc., etc., to the Secretary of State for War, and the pressure brought to bear

is often such that the question is too often left for the consideration of his successor!!! It is so left, and the fiat goes forth to the Military side—"As you were"!

As long as the taxpayer puts his pocket, as long as Members of Parliament put votes and place, before the efficiency of the Services by which our Queen's empire has been created and maintained, so long must there be the possibility and probability, if not certainty, of failure when the crisis comes. Then the civilian population should place the blame on the proper shoulders, which in this case would certainly not be those of the military authorities.

I have said that the British cavalry labour under difficulties of organisation, distribution, and training such as do not beset the path of the cavalry of any other first class Power in the world; and I now conclude by saying that it is a wonder to me how, in face of these difficulties, they work as well as they do, the military authorities and the Cavalry Service being hampered by, and having to deal with, and make the best of a so-called system based upon the necessities of a case and time long since obsolete, and now utterly inadequate to meet the demands and requirements of the circumstances of training for modern warfare.

If our "candid friends" who criticise us so unmercifully in the public press would turn their attention to the chief causes of the shortcomings they so drastically complain of and help us to obtain their removal, they would render signal service to the cavalry arm and earn our deepest and most sincere gratitude.

NAVAL AND MILITARY NOTES.

NAVAL.

HOME.—The following are the principal appointments which have been made : Rear-Admirals—H. Pearson and A. K. Wilson, C.B., *V.C.*, for service with Manœuvre Squadron. Captains—W. F. S. Mann to "Anson"; B. E. Cochrane to "Galatea." For the Manœuvres: Captains—A. Chisholm Batten to "Andromache"; H. N. Dudding to "Apollo"; H. B. Lang to "Astræa"; H. H. Dyke to "Charybdis"; V. A. Tisdall to "Flora"; W. H. Brown to "Forte"; R. P. Humpage to "Fox"; C. G. Dicken to "Hermione"; R. D. Bruce to "Indefatigable"; J. L. Burr to "Iphigenia"; C. H. Adair to "Iris"; C. H. Cross to "Latona"; F. Hutchinson to "Naiad"; E. H. Bayly to "Pearl"; A. W. Prothero to "Thames"; G. R. Lindley to "Thetis"; G. N. Pollard to "Tribune." Commanders—A. E. Stewart to "Alarm"; H. Lyon to "Antelope"; C. I. Baker to "Curlew"; the Hon. G. F. Digby to "Hazard"; J. Casement to "Landrail."

The Naval Manœuvres this year have taken the form of Tactical Exercises, which will consist, according to the Admiralty memo, "of a series of exercises to be performed by two independent fleets, and of certain exercises and manœuvres to be undertaken by a Torpedo Squadron in the St. George's Channel."

The exercises during the cruise included :—

1. Fleet evolutions.
2. Exercises in cruising formations at night.
3. Exercises in battle formations during the day.
4. Anchoring and weighing the fleet.
5. Scouting and distant signalling.

At the expiration of the first cruise, the Channel Fleet proceeded to Berehaven and the Reserve Fleet to Lough Swilly to complete with coal and prepare for the second cruise.

Both fleets were to leave their respective ports on Thursday afternoon, the 8th August, weather permitting, and proceed to a rendezvous communicated to the admirals in command, from which position they were to take the necessary measures by means of their scouts and cruisers for finding each other and effecting a junction.

The two fleets would then be organised as one, and under the command of the Vice-Admiral commanding the Channel Fleet continue the evolutionary cruise until the morning of the 14th August, when the fleets will separate, and, after being dispersed, proceed to carry out target practice during the following day, returning to their ports of assembly, either singly or together, as may be arranged by the admirals commanding.

Two fleets and a torpedo squadron have been formed, and consist of the following ships and vessels :—

CHANNEL FLEET.	RESERVE FLEET.	TORPEDO SQUADRON.
<i>Battle-ships—</i> Royal Sovereign (Flag) Empress of India (Flag) Resolution Repulse <i>Cruisers—</i> Blenheim Endymion *Grafton *Theseus *Charybdis *Forte *Latona *Indefatigable *Iphigenia *Andromache *Apollo *Pearl Bellona <i>Torpedo-gunboats—</i> Speedy Halycon Jason Niger Sheldrake *Alarm	<i>Battle-ships—</i> Alexandra (Flag) Benbow Dreadnought Edinburgh Colossus <i>Cruisers—</i> Warspite (Flag) Galatea *Flora *Astræa *Thames Mersey Melampus *Naïad *Tribune *Thetis *Iris <i>Torpedo-gunboats—</i> Leda Onyx Renard Salamander *Hazard *Antelope	<i>Cruisers—</i> *Hermione" (Flag) *Fox <i>For Auxiliary Duties—</i> Magnet Curfew Traveller Landrail <i>Torpedo-boat Destroyers—</i> Daring *Havock *Decoy *Boxer *Bruiser *Dasher Ferret *Dragon *Rocket *Shark *Surly *Banshee <i>Torpedo-boats—</i> 79* 83*D 84* 94*D 95*D 80* 85* 86* 87* 72* 73* 74*

* Ships specially commissioned.

Rear-Admiral Pearson hoisted his flag on board the "Warspite" as second in command of Reserve Fleet, and Rear-Admiral Wilson his on the "Hermione" in command of Torpedo Squadron.

An Order in Council has been issued authorising the transfer of 100 lieutenants and sub-lieutenants of the R.N. Reserve to the Active List of lieutenants. It is only a temporary measure, intended to remedy the want of lieutenants existing at the present time.

Another Order in Council fixes the numbers of the admirals, captains, commanders, and lieutenants to be borne on the Active Strength of the Fleet in the future. The Flag-Officers' List remains at its old strength, viz. :—Three Admirals of the Fleet; ten admirals; twenty vice-admirals; thirty-five rear-admirals. The number of captains is raised from 175 to 208, and they are divided into three classes, viz. :—First class, 50; second class, 50; third class, 108. The number of commanders is raised from 270 to 304 (including seventy for navigating duties), and of lieutenants, from 1,000 to 1,150 (including lieutenants for navigating duties). There are also regulations governing the

method of promotion for completing to the new establishment, and of retirement of officers; the most important changes being, that, for the future, the vacancies on the Flag List, from whatever cause, are to be filled as they occur, instead of being limited to seven per annum as under the provisions of the Order in Council of August 5th, 1875; that flag-officers will be retired after seven instead of ten years' non-service; captains after six instead of seven years' non-service; while commanders will be retired after five years' non-service, as at present.

It is expected that some important lessons will be learnt during the manœuvres this year from the experience to be gained in scouting and distant signalling; in regard to the latter a correspondent of the *Globe* lately gave some details of the methods of distant signalling with which experiments were to be made during the cruise:—"Not the least important feature of the forthcoming Naval Manœuvres is the thorough testing of some of the recent inventions of long-distance and night signalling. Various systems have been submitted to the Admiralty, but after all the old-fashioned semaphore, affixed to the masthead of a ship instead of on the poop or on the quarterdeck, stands a good chance of beating its numerous rivals. This system has been tried with some success in the Mediterranean, and it is now to receive a further test during the forthcoming manœuvres. The 'Royal Sovereign,' flag-ship of the Channel Fleet, had a masthead semaphore fitted to her before leaving Portsmouth, and the cruiser 'Blenheim' also has one. It is claimed that not only is the semaphore easily worked, the levers being manipulated from the deck, but that the messages can be read at a distance of several miles, and, what is more, the smoke from the funnels will not prevent the other ships of a fleet from seeing the semaphore, as it does under the present system. Rear-Admiral Fane's collapsible drum is being tried on the 'Naiad' and the 'Alexandra.' The drum is affixed to the head of the foremast, and worked from the deck by means of levers. The messages are sent on the Morse alphabet principle. There are several advantages attached to the system, one of which is that the drum can be used at night. Holes have been cut in its sides, and there are from fifteen to twenty powerful little electric lights inside of it. The working, too, is simple. Another system of night signalling that is to undergo a trial is the flashing of messages by means of a powerful electric lamp, of special design, affixed to the masthead, and lamps have been fitted to the foremasts of the cruisers 'Fox' and 'Iris.' Prince Louis of Battenberg was interested in an invention of signalling by means of a large cone at the masthead, which was opened and shut by levers worked from the deck. The Prince's system was tried on the gun-boat 'Insolent' in the Solent, and with considerable success, as the messages were decipherable at a distance of fourteen or fifteen miles, but it was said to be too cumbersome, and difficult to work."

Some important trials and exercises are to be carried out by the Torpedo flotilla under the orders of Rear-Admiral Wilson; but, as no correspondents have been permitted to join this squadron, it seems doubtful if the results will be made public.

A Blue Book recently issued, gives some interesting particulars with reference to contract prices of a number of torpedo-boat destroyers, now being constructed by private firms for the Navy. Messrs. Yarrow have built three, the price for each being £37,400; Messrs. Thornycroft have also built three, at the price of £34,480 each; Palmer's Shipbuilding Company, Jarrow, receives £37,107; White, of Cowes, £39,113, the engines in this case being supplied by Messrs. Maudsley; Messrs. Doxford, of Sunderland, £37,001; Messrs. Thomson, of Clydebank, £34,792; and the Naval Construction Company, at Barrow, £33,977. The same Blue Book states that the contract price of the hull and machinery of the 14,000-ton cruiser "Terrible," with Belleville boilers and engines, to give 23 knots speed, is £542,347. This ship is building at Clydebank; her sister, the "Powerful," is being constructed at Barrow, for a contract price of £535,252.

The second class cruisers "Severn," Captain R. Henderson, C.B., and "Sirius," Captain Pipon, C.M.G., have both been paid off, the first on return from China, and the second from the south-east coast of America.

The new sloop "Torch" has completed her steam trials satisfactorily. On a run of eight hours, with a mean steam pressure of 150·4 lbs. and the engines working 186·6 revolutions per minute, an average of 1,163·2-H.P. was indicated with a speed of 13 knots. The machinery of the "Torch" was designed to indicate 1,100-H.P., with a speed of 12·25 knots. On the four hours' full-speed trial, the results were as follows:—Pressure of steam, 153 lbs.; revolutions, 203·4 per minute; vacuum, 27·4 inches; air pressure, 1·2 inch; I.H.P., 1,457·3 (57·3 in excess of the specification); speed, 13·4 knots per hour. The speed is less than half a knot in excess of that attained with natural draught, when, for a mean of 1,163·2-H.P., a speed of 13 knots was recorded.

The new torpedo-boat destroyer "Sturgeon" has also concluded her trials. The mean speed for a three hours' continuous full-power trial was 27·1 knots, whilst the I.H.P. recorded was slightly over 4,000. She was steamed over the measured mile six times, each run being made at a speed of over 27 knots.

The "Sharpshooter," torpedo-gunboat, has completed satisfactorily, notwithstanding the severe weather encountered in the Irish and Bristol Channels, the first series of her trials with the Belleville boilers, which consisted of four separate runs of 1,000 miles each, with the engines working at 1,530-I.H.P. Throughout the trials a noticeable feature was the excessive vibration of the vessel; in fact, the vibration was so great that it is doubtful if the vessel will be able to carry out in its entirety the last trial of the programme, viz.:—A trip of 1,000 miles with the engines working at 2,150-I.H.P. The boilers themselves have given every satisfaction. The second series of trials consist of two trips, each of 1,000 miles, with an average I.H.P. of 1,800.

Six first class torpedo-boats, Nos. 88, 89, 91, 92, 93 and 97, have been sent to strengthen the Mediterranean Squadron, and were conveyed to Gibraltar by the "Theseus" and "Grafton"; on arrival, No. 91 was attached as tender to the "Cormorant," while the others were placed in the Reserve.

The armament of the four new first class cruisers to be laid down this year has now been settled, and differs materially from that of the "Blake" and "Blenheim."

Exclusive of machine-guns the "Blenheim" and "Blake" have twenty-six guns, varying in size from the 9·2-inch 22-ton breech-loader to the 3-pound Q.F. In the new cruisers, however, the largest guns will be of but 6-inch calibre, and the whole armament will be quick-firing. There are to be forty-one guns, distributed as follows:—Twelve 6-inch broadside guns mounted in casemates; three of the same type so mounted as to give a right-ahead fire; twelve 12-pounders; two of the same calibre, but of a lighter type, for boat and field service, and twelve 3-pounder Hotchkiss guns. There will be seven Maxim machine-guns, and three 18-inch Whitehead torpedo-tubes, two of which are to be fitted as submerged tubes in the fore part of the ship, and the other as an above water tube for discharging a torpedo astern.

The first class protected cruiser "Powerful" was launched on the 25th ult. at Barrow, from the yard of the Naval Armaments and Shipbuilding Company. She is a sister-ship to the "Terrible," launched on the 28th May at Clydebank, and of which we gave the principal details in last month's Notes. The *Times*, however, gives some further details which are of interest:—

"Both vessels have been built to the same drawings so far as constructional work is concerned, and putting aside the design of the engines and general arrangement of machinery. As we stated in our description of the 'Terrible,' these vessels are the largest cruisers ever constructed. They have been designed by Sir William White, the Director of Naval Construction. They are each 500 feet long between perpendiculars, or 538 feet over all. The beam is 71 feet, and the

designed draught 27 feet. The displacement at that draught will be 14,200 tons. This is only 700 tons less than our largest battle-ships of the 'Magnificent' class, and about 200 tons less than the Italian vessels of the 'Italia' class, for so long the largest war vessels in the world, which are described as 'armoured' ships, though they have no armour in the shape of belt or for side protection. The 'Powerful' and 'Terrible' have a considerable proportion of their displacement devoted to armour, there being the armoured deck, with a *maximum* thickness of 4 inches, the conning-tower, the barbettes, and the casemates of 6-inch thickness, besides ammunition trunks and additional protective plating at the backs of the casemates and elsewhere. If the tendency towards suppression of side armour in battle-ships, which was so apparent a few years ago, and of which the 'Italia' may be taken as an extreme example, had continued, it would soon have been difficult to draw the line between battle-ships and cruisers in view of the reduction in calibre of principal armaments. The 'Italia' has four 100-ton guns. This alone is sufficient to differentiate her from the 'Powerful,' which has no larger weapon than the two 9·2-inch guns mounted fore and aft. The 'Italia' is credited with 18 knots on her trial, whilst the 'Lepanto,' a more recent vessel of the same navy, steamed about a third of a knot faster.

"The armament of the 'Powerful' will consist of two 9·2-inch guns, twelve 6-inch Q.F. guns, sixteen 12-pounder Q.F. guns, and twelve 3-pounder Q.F. guns, with nine machine and two lighter guns. The barbette armour for the protection of the bases of the mountings of the two 9·2-inch guns is in place. These weapons are mounted on the upper deck forward and aft, and have, therefore, an extended arc of fire. The armour for the barbettes and conning tower has been supplied by Messrs. John Brown and Co., of Sheffield. It is of Harveyised steel. The rings of armour are composed of four segments, which together form a dwarf roll or cylinder 15 feet 6 inches diameter, and 2 feet 6 inches deep. The shield for the protection of the gun will, of course, be raised above this fixed armour. The armour plates, which form the outside part of the casemates for 6-inch Q.F. guns, are very fine pieces of work by Messrs. Cammell, of Sheffield. The twelve 6-inch guns form the chief fighting element of the ship. Eight of these guns are placed on the main deck, four on each side. The two pairs forward and aft are arranged to have a wide range ahead and astern respectively. In order to provide for this, the sides of the ship have been recessed so that the forward guns may be pointed well ahead, and the aft guns well astern. The armour for these casemates is in two parts, the division being vertical in plane with the axis of the gun. Each of the two plates is about 13 feet long, and 7 feet to 8 feet high, the height varying with the position in the ship. As this is 6-inch steel armour, and as the plates have to follow the contour of the ship, which forms a considerable curve at the ends, it will be seen that powerful machinery is required to form these plates; and here it may be said that the modern disposition of steel armour has only been made possible by the improvements of late made in hydraulic presses and special machine tools. The plates are, however, not only bent to a considerable curve, but the part which would formerly have been cut out to form the gun port has not been entirely removed, but has been bent inwards, thus forming very efficient protection to the guns' crews. The design is not altogether new, it having been adopted in some previous cruisers designed by Sir William White; but it is worthy of notice, as an example of the difficult work which the steel-worker of to-day can perform by means of powerful modern machinery. The broadside casemates, of which there are four in all, form shallow sponsons standing out from the ship's side, thus increasing the range of fire, which amounts to 60 degrees. The four remaining 6-inch guns are mounted in casemates placed immediately above the fore and aft casemates on the main deck. All these casemates have 2-inch armour at the back to protect the crews from splinters of shell or *débris*.

The ammunition is brought up through armoured trunks, the trunk for the upper deck guns being brought up through the back of the main deck casemates. Dismounting rails are fixed to the deck, and by the aid of these the guns can be slung and traversed back, so that they be housed well inboard outside the casemates.

"Turning to the more general features of hull structure, we find that great pains have been taken by skilful disposition of material to get extreme lightness combined with the great strength and rigidity required in a vessel of this nature. The armoured deck is, of course, a great feature of strength, and affords an excellent foundation to work from. Under the machinery space there is the usual double bottom, which extends from edge to edge of the armoured deck. Above this the ordinary frames are spaced 2 feet, but every sixth frame is a deep web frame stiffened by a reverse angle. These frames are 2 feet 6 inches deep and are 12 feet apart. This form of structure extends from the armoured deck to the upper deck.

"The armoured deck itself is composed principally of three thicknesses of steel plating, but at the edges where it joins the side of the ship, two of the skins of plating are discontinued, so that the extreme edges of the deck, for a width of a foot or two, are only one skin of plating. This feature, which, presumably, is chiefly to facilitate and cheapen construction and save weight, has been very severely criticised in some quarters; but the objections raised are more apparent than real. With the ship at rest the edges of the deck are a long way below water level, and it is only when the vessel is rolling that the supposed defects would be manifested. To bring the lower edge of the deck to the surface, however, would require a considerable roll. If the ship were rolling from the enemy the tendency would be to bring the edge of the deck more nearly parallel with the line of fire, when penetration would be far more difficult. If the ship were rolling towards the enemy the high crown of the very much arched deck would have to be surmounted. In these considerations the trajectory of the shot is supposed to be flat; with a plunging fire the danger would be increased, but that applies to deck protection generally. A cruiser, not being designed for the line of battle, must take its chance. There is, however, another argument to be advanced in favour of the thin edges—namely, that a shot penetrating them would not pass into any of the large compartments of the ship, but into the double bottom space, unless, of course, it pierced both the inner and outer skin. Whether the thinner edges for the armoured deck are or are not a desirable arrangement may be a matter of opinion, but the points now advanced are worthy of attention in view of the fact that only adverse criticisms have been hitherto heard.

"The machinery space occupies about half the length of the ship—240 feet—and this, of course, in the middle part of the vessel. Such is the price paid for high speed. The coal capacity of these vessels is very large, the *maximum* amount carried being 3,000 tons. A good deal of this coal is utilised as protection against the destructive effects of shell fire. At the time of launching the ship was far nearer completion than is often the case with vessels of this kind. All the armour proper is in place, pedestals for gun-mountings, skylight and companion ways, etc.; even a great part of the joinery work is fitted. In regard to the latter great pains have been taken to reduce the quantity of wood used as much as possible. The necessity for this has been amply proved during the recent war in the East between China and Japan. To the credit of the Admiralty it may be said, however, that this was previously recognised, and Sir William White had made provisions for reducing the risk of fire during action before the late war began. In the 'Powerful' steel panels are largely used in places of wood for cabin partitions, etc., and sheet-steel is largely used in all places possible.

"The engines of the 'Powerful,' which consist of two pairs of three-stage compound engines, designed by Mr. A. Blechynden, have cylinders, 45 inches high-pressure, 70 inches intermediate, and two low-pressure cylinders each of 76 inches,

the stroke being 48 inches. These incorporate the modern features of steel in place of iron and large bearing surfaces. The boilers are, as in the 'Terrible,' of the Belleville type. As in the 'Terrible,' there are forty-eight in all, in eight watertight compartments. A more extended description of the machinery may be left until its performance is proved by the trial trip of the vessel. It may be stated, however, that there are 144 steam cylinders in the main and auxiliary engines, the former, however, contributing but eight of these. The boiler pressure will be 260 lbs. to the square inch, with reducing valves to bring it down to 210 lbs. in the cylinders. The total I.H.P. will be 25,000 at 110 revolutions. The legend speed is 22 knots."

The most interesting event probably of the past month has been the visit of the Italian, Austrian, and Spanish Squadrons to our shores, on their return from the festivities at Kiel. The Italian Squadron, under the command of Admiral the Duke of Genoa, consisted of the following ships:—

Royal Yacht—"Savoia," bearing the flag of H.R.H. the Duke of Genoa.

Battle-ships—"Re Umberto," flag-ship of Vice-Admiral Accinni.

" "Sardegna," flag-ship of Rear-Admiral Grandville.

" "Ruggiero di Lauria," "Andrea Doria."

Cruisers—"Stromboli," "Etruria," "Aretusa," "Partenope."

The fleet arrived at Spithead on the forenoon of Tuesday, the 9th ult., and left again on Thursday, the 18th; on Saturday, the 13th, the combined Channel Squadron and Italian Fleet were inspected by H.R.H. the Prince of Wales, who paid a long visit to the "Re Umberto," from which ship, in company with the Duke of Genoa, he witnessed the operations of a torpedo-flotilla consisting of four of the new destroyers, the "Daring," "Decoy," "Boxer," and "Bruiser" and four first class torpedo-boats. The Austrian Squadron, under the command of Rear-Admiral H.I.H. the Archduke Stephen, consisted of the following ships:—

First class Armoured-cruiser—"Maria Theresia" (flag-ship).

" Cruisers—"Kaiserin Elisabeth," and "Kaiser Franz Josef."

Torpedo-cruiser—"Trabant."

The ships arrived at Plymouth on Thursday, the 28th June, and left again on the Sunday evening, the officers and men being entertained by the Naval, Military, and Civic Authorities. The Spanish Squadron, under the command of Rear-Admiral Espinosa, consisted of the following ships:—

Battle-ship—"Pelayo" (flag-ship),

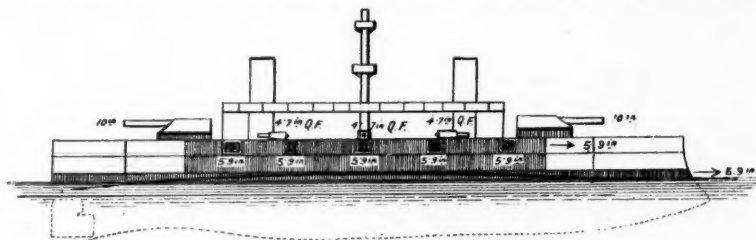
First class Cruiser—"Infanta Maria Theresa,"

Third " " "Marques de Ensenada,"

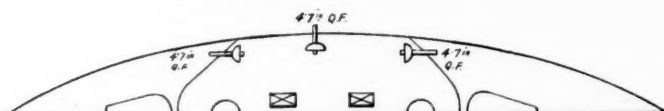
and arrived at Plymouth on the 20th ult., leaving again on the 29th. It is noteworthy that this is the first squadron of Spanish war-vessels which has visited this country for more than a century.

ARGENTINE REPUBLIC.—The Government has lately purchased from the Italian Government the new armoured-cruiser "Giuseppe Garibaldi," which was launched from the yard of Messrs. Ansaldo, of Leghorn, on June 27th last. She is a formidable ship, her dimensions being as under:—Length, 325 feet; beam, 59 feet; and with a mean draught of 23 feet 7 inches, a displacement of 7,000 tons. Her engines are to develop 13,000-I.H.P., which are calculated to give a speed of 20 knots. Protection is afforded by a complete water-line belt, above which there is a central battery extending some two-thirds the length of the vessel, the whole being armoured with 5·9-inch nickel steel, the battery being shut in with athwartship bulkheads of 1·9-inch steel. The armament consists of two 10-inch guns, one fore and one aft in barbettes protected by 5·9-inch armour with 2-inch steel hoods, the secondary battery consists of ten 6-inch Q.F. guns in the central battery, separated from each other by armour screens, and of six 4·7-inch Q.F. guns on the superstructure, and eighteen 6-pounder, and smaller Q.F. guns.

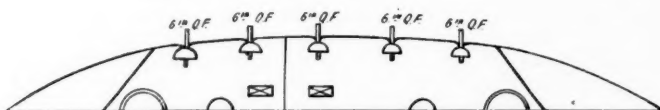
PROFILE AND DECK PLANS OF THE "GIUSEPPE GARIBALDI."



UPPER DECK



BATTERY DECK



ARMOUR DECK



AUSTRIA-HUNGARY.—The coast-defence battle-ship "Wien" was launched from the yard of the Stabilimento Tecnico Triestino at San Rocco Trieste on the 6th ult. Her dimensions are as follows :—Length, 303 feet 6 inches ; beam, 55 feet 3 inches. Displacement, 5,550 tons ; mean draught, 20 feet 6 inches. Her engines are to develop 8,500-I.H.P. under forced draught, giving a speed of 17.5 knots. The waterline belt is 10.8 inches thick, the armour of the barbettes 8 inches, and of the two citadels 3.3 inches ; the armament consists of four 24-centimetre (9.4-inch) guns in pairs in the barbettes, and a secondary battery of six 15-centimetre (5.8-inch) in the upper citadel. She is a sister-ship of the "Monarch," launched at Pola on the 9th May, and a full description of which with plans was given in the May number of the JOURNAL ; a third vessel of the same class, the "Buda-Pest," also building at the yard at San Rocco, is to be launched shortly.

The Naval Budget for 1896 has been prepared and laid before the delegations. The principal items are as follows :—A third vote of 750,000 florins for the coast-defence ship "Monarch," the total cost being three and a half million florins ; a first vote of 200,000 florins out of a total of one and a half millions for a new

torpedo-cruiser to take the place of the "Greif"; a first vote of 70,000 florins out of a total of 527,000 florins for a new torpedo-boat destroyer. In the Extraordinary Budget:—A fourth vote of 790,000 florins is demanded for the coast-defence ship "Wien," and 760,000 florins as a third vote for the sister-ship "Buda-Pest," the total cost of each vessel being three and a half millions; a first vote of 130,000 florins for a new armoured-cruiser, which is to be of an improved type to the "Maria Theresia," the total cost being estimated at three and three-quarter millions.—*Militär-Zeitung*.

FRANCE.—The following are the principal promotions and appointments which have taken place: Capitaine de Frégate—P. Drouillard to Capitaine de Vaisseau. Rear-Admirals—Le Borgne de Kérambosquer to Chief of the Staff of the 2nd Arrondissement Maritime (Brest); Fournier, Major-General at Brest. Capitaines de Vaisseau—d'Hombres to "Valmy"; de Bernardières to "Borda"; Valat to "Dubourdieu," as Chief of the Staff to Rear-Admiral Pongin de la Maisonnette; Bugard to "Chanzy." Capitaines de Frégate—Imhoff to "Vinh-Long"; Rossel to "Coëtlogon"; de Mazenod to "Nive."—*Moniteur de la Flotte*.

The third class cruiser "Beautemps-Beaupré," at present in China, is under orders to proceed to the Pacific, where she will relieve the "Duchaffault," a ship of a similar class, which is to return to Brest and pay off. The new coast-defence battle-ship "Valmy" will complete to full complement at Brest on the conclusion of the manoeuvres, and relieve the "Requin" in the Squadron of the North, which ship will proceed to Cherbourg and be placed in the second category of the Reserve. The preliminary trials of the new coast-defence battle-ship "Bouvines" having been satisfactory, her official steam trials commenced on the 26th June last, and are being carried on without any hitch occurring; during the two hours' full-speed run under forced draught the engines developed 8,800-I.H.P., with a consumption of coal of 136 kilogrammes per square metre of grate, the corresponding speed being 16.05 knots. From the point of view of the consumption of coal the trial was a great success, as according to the terms of contract an expenditure of 150 kilogrammes per square metre of grate was permitted; the temperature, however, in the stokeholds seems to have been excessive, and some modification in the ventilating machinery is to be attempted. A deplorable accident, however, occurred unfortunately during the trial of her guns on the 25th ult.; one of the 3-pounder Hotchkiss Q.F. guns in the military top was being tested; it is said that there had been a mis-fire, and the breech was in the act of being opened when the charge exploded, with the result that one blue-jacket was killed, and Lieutenant Espinassy, who has since succumbed to his injuries, was mortally wounded; while Rear-Admiral Chateauminis and Lieutenant Faton were severely injured. The third class cruiser "Surcouf," lately attached to the Channel Squadron, is to be placed in the Reserve at Rochefort to receive new boilers. The new torpedo-destroyer "Cassini" has resumed her steam trials at Cherbourg, important modifications having been made in her engines; during the two hours' run under forced draught a mean speed of 21.5 knots was obtained. The third class cruiser "Linois" has made her official two hours' run under forced draught off Toulon; there was a strong breeze blowing at the time, so the mean speed obtained was a trifle below 20 knots; the engines worked well, and had the weather been favourable there is no doubt she would easily have reached the 20.5 knots, which was the mean speed obtained at her preliminary trials. The "Brennus" was commissioned at Brest on the 1st August to recommence her trials, the extensive alterations to her superstructure being completed, and the "Amiral-Tréhouart" at Lorient with reduced complement on the 1st inst. for her steam and other trials. The first class armoured-cruiser "Chanzy" has also been fully commissioned, and is to proceed to Toulon to reinforce the Active Division of the Mediterranean Squadron.

The new first class battle-ship "Masséna" was launched at St. Nazaire from the Ateliers et Chantiers de la Loire on the 24th ult. Her dimensions are as follows :—Length, 362 feet 6 inches ; beam, 66 feet ; displacement, 11,924 tons, with a mean draught of 26 feet 6 inches. The ship will have three screws, driven by three independent sets of machinery, which, under forced draught, are to develop 13,500-I.H.P., giving a speed of 18 knots, while under natural draught the speed is to be 17 knots with the engines developing 9,500-I.H.P. ; steam will be provided by twenty-four water-tube boilers of the Lagrafel and Allert type. The ship has a complete water-line belt of Schneider steel tapering in thickness from 17·7 inches amidships to 9·8 inches fore and aft ; the turrets will have 13·5-inch steel armour, while the bases will be protected by 15·7-inch armour, the smaller turrets for the auxiliary guns being of 4-inch steel. The armament will consist of two 30-centimetre (11·8-inch) guns, mounted singly in the turrets, one forward and one aft, and of two 27-centimetre (10·8-inch) guns, mounted in sponsoned barbettes, one on each beam ; the secondary armament consists of eight 14-centimetre (5·5-inch) Q.F. Canet guns, mounted in pairs in small turrets on each side of ship, two forward and two aft, eight 10-centimetre (3·9-inch) Q.F. Canet guns on the superstructure protected by steel shields, thirty-two 6-pounder and 3-pounder Q.F. guns, and five torpedo-tubes. The cost of the ship when completed will be 27,438,230 francs, and, according to the contract, she is to be ready for her trials at Brest in March, 1897.

On the same day as the "Masséna" there was launched from the yard of M. Normand, at Havre, the new torpilleur-de-haute-mer "Forban," which, according to the terms of the contract is to have a speed of 30 knots ; in view of the failure of the "Lansquenet," which was built to steam 27 knots, and which in spite of numerous alterations to her machinery has never succeeded in any of her trials of maintaining anything like that speed, the trials of the "Forban" will be watched with considerable interest.

Important alterations are being made at Cherbourg in the coast-defence battle-ship "Furieux" ; she was originally launched in 1883, and, although a vessel of only 6,000 tons displacement, she had a water-line belt of 20 inches of armour, and carried two 34-centimetre (13·3-inch) guns, mounted in turrets, one forward and one aft, which were protected by 18-inch armour ; the thickness of the plating of the belt fore and aft is now being much reduced, and the weight gained is to be utilised in providing protection for four 4-centimetre (3·9-inch) Q.F. guns, and it is also proposed to remove the 34-centimetre guns and to substitute lighter guns of the most modern type, which, with their increased initial velocity, are really more powerful weapons. The cost of the work now being carried out will be about 1,000,000 francs. Similar alterations are to be commenced on the "Requin," after the manoeuvres come to an end, and will be carried out in time in all the vessels of that class.—*Le Yacht, Moniteur de la Flotte, and Le Temps.*

The Ministry of Marine appear to be satisfied with the aluminum torpedo-boat built for them by Messrs. Yarrow, as they have ordered five more from the same firm. Mr. Yarrow, in a paper read before the Institution of Naval Architects, gives some interesting details with regard to the aluminum used in the boat lately completed. He states :—

"As the result of numerous tests, we determined on using for the hull aluminum plates of 50 per cent. greater thickness than we should have adopted had steel been used ; and as, approximately, aluminum is, bulk for bulk, one-third the weight of steel, it follows that the weight of the hull was reduced by one-half. I believe experience has shown that the scantlings adopted were suitable. Plates of pure aluminum seem to be very deficient in strength, and although they may be greatly strengthened by being rolled cold and used unannealed, such treatment did not give all we required.

"We had, therefore, to seek a light alloy in order to secure sufficient strength, and ultimately determined upon aluminum, with 6 per cent. of copper. The strength of this alloy may be considerably varied during rolling. If 'soft-rolled,' *i.e.*, annealed after the last rolling, from 11 to 12 tons per square inch was obtained, with a large amount of elongation; if 'hard-rolled,' the strength was greatly increased, but the material was found to be brittle. We finally adopted the 6 per cent. alloy, rolled to a medium extent of hardness, giving from 14 to 16 tons per square inch tensile strength, combined with an amount of toughness enabling the plates to be hammered into shape cold, and to be bent to a sharp angle without showing signs of cracking. The framework of the hull consisted of angles of the same material. The plates and frames were all shaped cold, and we found no great difficulty in carrying out the work in a satisfactory manner; in fact, we had not a single plate or angle to condemn.

"I would draw special attention to the high elastic limit as compared with the ultimate strength. All those portions, subject to the action of the sea or bilge water, were riveted with aluminum rivets, and the remaining parts, such as the deck, not subjected to the action of the sea or bilge water, were mostly riveted with soft iron rivets.

"With reference to corrosion from sea water, we have tried a series of experiments, extending over twelve months, and we find, provided there is no galvanic action due to other metals being in contact with the aluminum, the corrosion may be taken at under 4 per cent. per annum for plates about $\frac{1}{8}$ inch thick, the surface being unpainted. At the same time it must be borne in mind that such a boat as I am describing should be painted, and the paint used should be carefully selected, avoiding any that contains bodies that would have a direct chemical action on the plates. As further evidence of the effect of sea water upon aluminum, I would refer to the 'Vendénese,' a sailing yacht built of aluminum in Paris about eighteen months ago. The report of it, as regards corrosion, is as follows:—'. . . It has stood very well, excepting in a few places where copper fittings have been fixed in direct contact with the aluminum hull, which has produced a galvanic action. A similar action was produced when the boat was moored to a quay near another boat, the bottom of which was coppered, both being fastened to the same post by means of chains. With the above exceptions, direct contact with salt water has had no deteriorating effect.'

"The two great enemies to the use of aluminum are heat and alkalies. This material anneals at a comparatively low temperature, thus losing strength, while the alkalies act very rapidly upon it. Consequently, any part likely to be subject to a considerable rise of temperature should not be made of aluminum, nor should it be used for a condenser where soda may be required for cleaning purposes. Aluminum at high temperatures oxidises with exceptional rapidity. At low temperatures it does not oxidise so rapidly, and the film of oxide on the surface protects the metal from further action.

"As regards the machinery of this little vessel there is nothing special to note, excepting that aluminum bronze and manganese bronze were used wherever practicable. No aluminum was employed except for the low-pressure piston valve, for which purpose it seemed to answer well during the time the boat was in our hands. The engines were of the triple-expansion type, and indicated on trial from 275 to 300 H.P. The boiler was of our usual type, with copper tubes.

"Our contract with the French Government was to construct a boat 60 feet in length by 9 feet 3 inches beam, which, with 3 tons load on board, should have a speed of 18 $\frac{3}{4}$ knots during a full-speed trial of two hours, and which should not exceed 11 tons in weight, exclusive of the above load. The official trial took place on September 20th, 1894, the average speed obtained during two hours, under the above conditions, being 20'558 knots. The boat was carefully weighed and found to be 10 tons. From this it will be seen that a speed of 1 $\frac{3}{4}$ knots beyond that contracted for was obtained, and the weight was 1 ton below the

agreed maximum. In comparing this aluminum hull with one constructed of steel, the approximate saving in weight by adopting the lighter material cannot be taken at less than $2\frac{1}{2}$ tons, which it must be admitted is a large percentage in a boat weighing, complete with its machinery, 10 tons. The machinery was found to weigh about 40 lbs. per I.H.P., including the water in the boiler and condenser. The vibration at all speeds was inappreciable. I may add, from information quite recently received, the French authorities are so exceedingly pleased with the boat, that they have in contemplation the building of several more, on the same plan, of aluminum."

GERMANY.—The following are the principal appointments which have been made: Rear-Admiral Oldekop to command of the Reserve Squadron of the North Sea for the Manœuvres. Kapitän zur See—Schmidt to "Gefion." Korvetten-Kapitäns—Scheder for service at Ministry of Marine; Coerper to "Seedler"; Winkler to "Bussard."—*Marine Verordnungsblatt*.

The 1st Division of the Manœuvre Squadron, consisting of the battle-ships "Kurfürst Friedrich Wilhelm" (flag-ship), "Weissenburg," "Wörth," and "Brandenburg," with the despatch-vessel "Jagd," under the command of Vice-Admiral Kœster, after cruising off the coast of Spain and touching at Queenstown, arrived at Cowes on the forenoon of Sunday, the 4th inst., where they remained until the forenoon of the 8th inst. when they left for Wilhelmshaven, where the fleet for the Grand Manœuvres is assembling.

Rear-Admiral Oldekop has hoisted his flag on board the fourth class battle-ship "Hildebrand" for the manœuvres, and the remaining vessels of his squadron will be her sister-ships the "Beowulf," "Siegfried," and "Frithjof." This squadron has a displacement of 13,980 tons, a H.P. of 19,200, carries twelve 24-centimetre (9'4-inch) guns, thirty-two Q.F. guns, and is manned by 1,064 men, and will form the 4th Division of the manœuvre fleet. The torpedo flotilla has received orders to join the 2nd Division of the fleet under Rear-Admiral Barandon.

The new despatch-vessel "Komet," which has been built at the Vulcan Works at Bredon, near Stettin, has completed her trials successfully. At the two hours' run under forced draught, with the engines making 214 revolutions a minute, the mean speed was 20'8 knots. She is a vessel of the torpedo-boat catcher type, 262 feet long, 30 feet 6 inches beam, 13 feet mean draught, a displacement of 946 tons, with engines developing 5,000-I.H.P. Her armament consists of four 3'5-inch Q.F. guns, nine smaller Q.F. guns, and one torpedo-tube.

It is stated that the first class battle-ship of the "Brandenburg" type (ersatz "Preussen") at present in course of construction, will have a displacement of 11,000 tons, or nearly 1,000 more than her sister-vessels. The hull will consist mainly of steel, and the dimensions will be as follows:—Length, 377 feet; beam, 61 feet 6 inches; mean draught, 25 feet 6 inches. The armour belt extends along four-fifths of the total length, beginning at the bows, and the propellers and stern portion will be specially protected by a curved iron sheathing under water. The engines will develop 13,000-I.H.P., being 4,000 more than the other vessels of the same type, and the speed is to be 18 knots, the ship having three screws, like the "Kaiserin Augusta." The armament will consist of six 24-centimetre (9'4-inch) guns en barbette, protected by armour of 12 inches in thickness, eighteen 15-centimetre (5'8-inch) Q.F., and twenty-four Q.F. guns. The central battery for the auxiliary armament will be protected by 3-inch and the conning tower by 9-inch armour. Only Harveyized plates will be used. There will also be six torpedo-tubes. The cost of the armament is put down at 5,000,000 marks, and the hull at 14,250,000 marks. The vessel is to be completed in four years. The above details are probably in the main correct, but they are not official.

According to the official *Rangliste* lately published, the establishment of officers for the fleet for the current year is composed of:—One Admiral, five Vice-Admirals, and nine Rear-Admirals; Captains (Kapitäns zur See), forty-one, an

increase of three; Commanders (Korvetten-Kapitäns), seventy-four; Captain-Lieutenants, 155, an increase of seven; Lieutenants, 234, an increase of twelve; Sub-Lieutenants, 122, an increase of fourteen; Cadets, 267; a total of 641 (exclusive of Cadets), as against 646 last year. There are, further, forty-one Marine Officers, eighty-seven Engineers, 116 Doctors, 144 Administrative Officers, making a grand total of 1,034 officers, with 21,487 men. The fleet consists of ninety-one ships of war, with a total displacement of 266,237 tons, and 292,229-H.P. Between the 1st July, 1894, and 30th June, 1895, the following ships were struck off the strength of the fleet:—Two fourth class battle-ships, one fourth class cruiser, and one despatch-vessel. With the new ships the fleet is now composed of:—Battle-ships—four first class, three second class, seven third class, and eight fourth class; thirteen armoured gun-boats; cruisers—three second class, seven third class, and eight fourth class; gun-boats, five; avisos, ten; training-ships, fourteen; and two ships for special service.—*Neue Preussische Kreuz Zeitung*.

The "Brandenburg," which forms the frontispiece, is one of the four first class battle-ships of the German Navy. She is a vessel 354 feet 6 inches long, 64 feet beam, 24 feet 6 inches mean draught, and a displacement of 9,842 tons; the I.H.P. is 9,500, and the speed 16 knots. There is a continuous belt of compound armour on the waterline of a thickness varying from $11\frac{3}{4}$ to $15\frac{3}{4}$ inches, and the barbettes, of which there are three, also carry compound armour $11\frac{3}{4}$ inches in thickness. The protective deck is 2 inches thick. The principal armament consists of six 28-centimetre (11'02-inch) guns, each weighing 43 tons, mounted in three barbetstes, one forward, one aft, and one very nearly equidistant between the two, just aft of an unarmoured superstructure containing the greater part of the secondary armament. Owing to the heavy character of this principal armament, the secondary armament is reduced in corresponding proportion. It consists of six 10-centimetre (3'96-inch) Q.F. guns, of eight 87-millimetre (3'43-inch) Q.F. guns, of eight machine, and two light guns. There is good freeboard forward and for two-fifths of the length, but the after-part is, relatively speaking, low. The barbettes guns are protected by hoods of 5-inch Harveyized steel, which would probably divert any projectile of 6 inches or under; the secondary armament is a good deal crowded together, the larger Q.F. guns are protected only by $2\frac{1}{2}$ -inch screens.

ITALY.—The following are the principal appointments which have been made: Rear-Admiral—C. Marchese to command of Training Squadron. Captain Cravosio to "Lepanto," as Chief of the Staff of Reserve Squadron.—*Gazetta Ufficiale*.

The boiler exploded on board the first class sea-going torpedo-boat "Aquila" while she was running a trial trip off Spezia last month, killing five of the crew, including the engineer, and wounding thirteen others.

The new cruiser "Elba," launched at Naples in 1893, has left Castellamare, her steam trials having been satisfactory. She is a vessel of 2,740 tons, with engines developing 6,500-I.H.P., giving her a speed of 19 knots.

All torpedo-boats which are not yet fitted to burn petroleum fuel are to be forthwith taken in hand for the necessary modifications to be made. The new torpedo-cruiser "Caprera" has commenced her trials off Leghorn. Under natural draught, with the engines developing 2,200-I.H.P. out of a possible 4,800, she maintained a speed of 17 knots. The Minister of Marine has decided on the construction of another submarine-boat similar to the "Delfino." She will be 49 feet long, with a beam of 10 feet 6 inches, and is to be driven at a speed of 10 knots under the water. The "Delfino" carries a crew of one officer and seven men.—*Italia Marina*.

The total of 99,877,897 lire, which was demanded by the Minister of Marine for the Naval Budget for the current year, was reduced by the Chamber of

Deputies, the total of the Ordinary and Extraordinary Estimates finally remaining fixed at 95,870,411 liras, showing a reduction over the Budget of 1894 of 3,868,858 liras.

The sum of 25 million liras proposed by the Minister for new constructions, was reduced by the Chamber to 23,360,000 liras, on the plea that the building of some of the ships could be delayed. According to the Decree of the 28th June, 1891, out of a sum of 2,900,000 liras remaining over for new ships, 1 million liras is to be expended in 1895-96, and the balance in 1896-97.

The credit for new constructions is being devoted as follows :—

1. For the armament of the first class battle-ship "Sicilia," the cruisers "Marco-Polo," "Calabria," and "Caprera," and the gun-boat "Governolo."

2. The forwarding of the building of the first class battle-ships "Saint-Bon" and "Emanuele Filiberto"; and the armoured-cruisers "Carlo-Alberto," "Vettor-Pisani," "Giuseppe-Garibaldi" (since sold to the Argentine Government); and the "Varese."

3. The laying down of three first class battle-ships of the "Filiberto" type, of one armoured-cruiser, four torpedo-cruisers, several torpilleurs-de-haute-mer, some vessels for harbour duties, and some pontoons and barges for the dockyards.

The ships under headings Nos. 1 and 2 are partly in course of construction, and the others in various stages of completion. Among those under No. 3, a commencement has been made with the protected-cruiser "Puglia" at Tarentum, and some White-picket-boats. The old armour-clads "Roma," "Principe-Amadeo," "Palestro," and the wooden frigate "Maria-Adelaide," are to be sold or broken up, and it is also proposed to strike off the Effective List of the Fleet the following ships :—"Città-di-Napoli," "Città-di-Genova," "Washington," "Marc-Antonio-Colonna," "Agostino-Barbarigo," "Cariddi," and "Saati." The six new Cistern-ships are to be called the "Cisterna," "Sile," "Po," "Dora," "Liri," and "Polcevera." Four new steamers of 2,400 tons, 4,000-I.H.P., with a speed of 17½ knots, have been ordered for the "Navigazione Generale Italiana" Company, and they will be placed when ready on the list of auxiliary-cruisers.

The establishment of officers of the military branch has been increased by five capitaines de vaisseau, two capitaines de frégate, and two lieutenants de vaisseau. The two foreign Naval Attaché-ships have been abolished. The full establishment now numbers :—One admiral, eight vice-admirals, fifteen rear-admirals, fifty-six capitaines de vaisseau, seventy-one capitaines de frégate, sixty-three capitaines de corvette, 311 lieutenants de vaisseau, 167 enseignes de vaisseau, and seventy-eight cadets. On the Supernumerary List :—One admiral and two capitaines de frégate as aides-de-camp to the King, and one capitaine de vaisseau as aide-de-camp, and two lieutenants de vaisseau as orderly officers to Admiral H.R.H the Duke of Genoa.

The addition of two engineers, proposed by the Minister of Marine, was refused by the Chamber of Deputies; the corps is decreased by two, and that of the officer-mechanics increased by nine. The list now stands at ninety engineers, and 215 engineer-mechanics.

There is no change in the numbers of the commissariat officers, and they stand as last year, at 310; but the Minister wishes to raise the total to 317. The surgeons list is raised from 189 to 191, instead of the 197 proposed by the Minister; the whole civil staff of the fleet has, therefore, only had an increase of fifteen on an effective total of 445.

The officers of the "corpo reale equipaggi" remain at 140.

The seamen have been increased by 755; the establishment now stands at 22,415, instead of 21,660. They are organised as follows :—1st Division (deck), 7,590 men, an increase of 339; 2nd Division (gun, torpedo, and small arms), 5,500 men, an increase of 303; 3rd Division (mechanics, artificers, and stokers),

5,385 men, an increase of 270; 4th Division (specialists, bandmen, coast-signalmen, telegraphists, &c.), 3,940 men, a decrease of 157 over the preceding year.—*Revue Maritime et Coloniale*.

RUSSIA.—The squadron in the East is to be strengthened by the addition of the new first class battle-ship "Navarin," the first class armoured-cruiser "Rurik," and the new armoured gun-boat "Gremyastchy." There seems to be no doubt that this squadron is to sail, as the French Minister of Marine has received official information of their approaching call at Cherbourg *en route* to their destination; according to the original programme of the Russian Admiralty, these ships were to have joined the Mediterranean Squadron this autumn, but it is stated now that they are to proceed to China instead. The "Navarin" was launched in 1891. She is a vessel of 9,476 tons, with engines of 9,000-I.H.P., giving a speed of 16 knots; 338 feet long, a beam of 65 feet 6 inches, and a mean draught of 23 feet 6 inches. She has a 16-inch armoured belt for three-fourths of her length, closed in by athwart-ships bulkheads of 12-inch armour, and carries four 12-inch (50·4-ton) guns in two turrets protected with 12-inch armour, and has a secondary battery of eight 6-inch in an armoured citadel, with 4-inch armour, and twenty-four smaller Q.F. and machine-guns, and six torpedo-tubes.

The armoured-cruiser "Dmitri-Donskoi" is undergoing extensive repairs and alterations at Cronstadt. Her sail-power is being much reduced, her topmasts and topsail yards being much smaller than formerly; and ten 1-pounder Hotchkiss Q.F. guns are to be mounted in the tops. The old battery of fourteen 6-inch guns is to be replaced by ten 4·7-inch Q.F. guns, with four 15-centimetre (5·8-inch) Q.F. guns for bow and stern fire. She carries in addition, as formerly, the two 8-inch guns, one forward and one aft. New boilers are also being put into the ship.

Orders for a new cruiser have been given to the firm of Graviile at Havre, and she is to be built on the plans of M. Coville, the engineer-in-chief of the company. Her dimensions are to be as follows:—Length, 331 feet; beam, 42 feet 6 inches; displacement, 3,828 tons, with a mean draught of 17 feet 6 inches; the engines are to develop 8,500-I.H.P., giving a speed of 20 knots, and the coal stowage will be 400 tons. The armoured deck will be of 2-inch steel tapering to 1 inch, but all the openings in it will be protected by combings of 12-inch steel, while the conning tower will be 4-inch with a 1-inch hood. The armament will be composed of six 15-centimetre (5·9-inch) Q.F. Canet guns, and ten 3-pounder Hotchkiss Q.F. guns with four torpedo-tubes, one on each beam, one in the bow and one in the stern. Two of the 15-centimetre guns will be fitted for bow and two for stern fire; all will be protected by steel shields; the ammunition hoists will be worked by electricity.

Some further particulars have now been published about the new armoured-cruiser "Rossia," whose launch on the 1st June we mentioned in last month's "Notes." The ship will be protected for four-fifths of her length by a 10-inch waterline steel belt, the ends of the belt being connected by 9-inch athwart-ships bulkheads; the armoured deck will be of 2·8-inch steel. The armament will consist of four 8-inch guns, two forward and two aft, each side in sponsoned barbettes; sixteen 6-inch Q.F. guns in the battery, four of which will be able to fire forward and two aft, eleven smaller Q.F. guns, and four torpedo-tubes. The furnaces will be fitted to burn petroleum fuel.

According to present plans, which are, at present, only speculative, the canal which is being projected between the Baltic and the Black Sea, will proceed from Riga and make use of the rivers Düna, Beresina, and Dnieper, ending at Cherson on the Black Sea. It is, properly speaking, only the connection between the Düna and the Beresina which is to be a canal. The whole length of this contemplated waterway is about 1,000 miles, the breadth at the top at the narrowest places

about 220 feet, and at the bottom about 120 feet, depth everywhere 20 feet. The low-lying Pripjat bogs makes it possible to do away with locks, with the exception of a lock at each terminus. The land through which the canal will have to pass has at the top a thin layer of sand and black earth, and under this stiff clay, which is not only favourable for working, but which lends itself admirably to the burning of the requisite bricks. There are projected harbours at a number of places, viz.: Cherson, Aleschki, Berislavi, Nikopole, Alexandrowsk, Dekotermosloer, Werch-nednieprowsk, Krementschug, Nowogeorgiewisk, Tscherkossy, Kanew, Peresjalow, Kjew, Bobrinsk, Borrisow, Lepel, Dünaberg, Jakobstadt, and Riga. The towns of Pultowa, Zytomir, Oster, Tscheringow, Mozyr, and Disna are intended to be connected with the canal by the canalising of existing waterways. A large reservoir at Pinsk, in the low-lying district, will make it possible to establish a connection with Niemen and Weichsel, by the Pripjat River, and it is proposed to erect shipyards there. Seven large railway bridges, viz., at Jekaterinoslaw, Krementschug, Kjew, Reczica, Bobrinsk, Barissow, and Dünaburg, and twenty-two highway bridges, will need to be built over the canal. At rivers adjoining the canal it is proposed to build eight main and fifteen auxiliary locks. At Riga and Cherson there will be large harbours and important terminal locks. The water-power which the various auxiliary rivers will yield on entering the canal is to be applied to electric lighting, so that the canal can be made navigable by night. With a speed of 6 knots a vessel could pass through the canal in six days. As it is proposed to start the work simultaneously at many different places, the time required for the completion of the canal is only put at five years. The total expenditure, including the purchase of the requisite land, is calculated at £20,000,000.

MILITARY.

PURE DRINKING WATER.

Reprinted from the "Pioneer," 17th July.

THE DISINFECTION OF WELLS.

Why test a well, either bacteriologically or chemically, asks Mr. Hankin in his last report, if its water can at any time be rendered fit to drink by the addition of three annas' worth of permanganate of potassium?

If the current view is right, namely, that cholera is in nine cases out of ten in India caused by swallowing the microbe in well water, then it follows that the best means of combating cholera will be to disinfect wells.

So far as I am aware, no one has hitherto employed disinfectants with the object of freeing wells from dangerous microbes, though all of the substances with which I have experimented have been used in wells either for cleaning them or for some other reason. Lime has been used in India for softening water. Alum has been used for centuries by the Chinese for removing turbidity. I heard of its virtues from a native, who told me he had learnt it from a fakir. I have heard of permanganate of potassium being used for cleaning a well, and its use as a general sanitary precaution is advocated in "Parkes' Hygiene."

In November, 1894, I published in the *Indian Medical Gazette* an account of the employment of lime as a means of disinfecting wells. From this paper I quote the following example of the effect of the employment of quicklime on the microbes in a stagnant well:—

Before the addition of lime the

water contained 30,000 microbes per cubic centimetre.

5 minutes after the addition 29,000 " " " "

½ an hour after 560 " " " "

1 hour after 400 " " " "

1½ hours 600 " " " "

2 " 184 " " " "

2½	hours after the addition	...	160	microbes per cubic centimetre.
3	"	...	56	" " "
3½	"	...	54	" " "
4	"	...	15	" " "
4½	"	...	400	" " "
5	"	...	84	" " "
26	"	...	66	" " "
30	"	...	48	" " "

Since lime, when kept, slowly absorbs carbonic acid, and changes into chalk, which has no disinfecting action, it is advisable to employ none but quicklime for the purpose. Two parts of lime should be added to a thousand parts of water. Major Dunlop, R.A., has very kindly worked out the following simple formula at my suggestion, by means of which the quantity necessary for any given well may be readily calculated :—

Multiply the diameter in feet by itself and by the depth of water, also in feet, and divide the product by ten. The result gives the number of pounds of lime that have to be added to give a proportion of two parts in a thousand. For example: suppose the well is 6 feet in diameter and contains 10 feet depth of water. Then the diameter 6 feet multiplied by itself gives 36. This multiplied by the depth of water, 10 feet, gives 360. This divided by 10 is 36. Consequently 36 pounds of lime have to be added. The proportion of lime in the water is then roughly two to a thousand.

Since lime is only very slightly soluble in water, it is necessary to agitate the water thoroughly for at least an hour-and-a-half after it has been added. This can most conveniently be done by means of a pair of bullocks and a *chursa*.

The objections to the use of lime are that it is not always obtainable in a fresh condition; that it is not likely to be of much use unless it is fresh; that it needs to be well mixed with the water, which is a kind of work that in practice is easily shirked; and lastly, that it kills frogs. Probably frogs are not present in wells in houses, but they are very common in out-of-door wells in these provinces. In Dhusaha I noticed in one well, besides numerous frogs, a tortoise that was over a foot in length. It is possible that these animals are excellent scavengers while they are alive. It is possible, on the other hand, that some kinds of frogs do harm by eating mosquito larvæ. Mosquito larvæ are sometimes present in well water, under which conditions I believe that they eat nothing else but microbes. However this may be, there can be no doubt that the presence of a dead frog in drinking water is objectionable, and I have heard of several cases in which well water acquired a putrid taste some time after the addition of lime.

I have more recently employed permanganate of potassium for the disinfection of wells. This substance appears to offer many advantages over lime or alum. It probably acts not so much as a disinfectant as by destroying organic matter which might act as food for the cholera microbe. In oxidizing organic matter it is decomposed, forming a precipitate of manganic oxide, in which microbes are probably entangled, and in cases in which the water is not disturbed, will tend to settle to the bottom of the well. It has been proved by Babes, Frankland, and others, that a most efficient way of freeing water from microbes is by causing in it a precipitate, which in every case has been found to have the power of removing the microbes that were present. I have been in the habit of adding about a handful of permanganate to each of the wells on which I have experimented. Probably one or two ounces would be enough for any well of ordinary size. It is merely necessary to mix the permanganate with water in a *dol* or any suitable vessel, and pour it into the well. It is advisable to add the permanganate at night, both in order to cause the minimum of inconvenience to the users of the water and also in order to leave the water undisturbed as long as possible. The quantity mentioned is sufficient to give a faint crimson colour to the water, and a slight astringent taste. If the well

contains much organic matter, the colour will have vanished on the following morning. If an excess of permanganate is still present in the water, it may be necessary to draw out the water till the colour has diminished.

The cases in which disinfectants have been used which are about to be described are not sufficient to amount to a proof that the disinfection of wells can check cholera, but I venture to think that they will justify an extended trial of the method. In interpreting the results, it must be remembered that cholera has an incubation period of two or three days in the immense majority of cases in these provinces. Consequently one cannot expect the good effects of disinfecting wells to be shown until the third day after this has been done. The success or non-success of the method should be judged by the number of attacks rather than of deaths after the addition of the disinfectant. It is unfortunate that, as things go, it is practically impossible in India to obtain reliable statistics as to attacks as a general rule. We must, therefore, be content with a record of deaths, and the possibility must be borne in mind that a death recorded as having occurred after the date of disinfection was that of a patient in whom the symptoms had first appeared before the wells were disinfected.

It is scarcely possible that the results will ever be so striking in a single epidemic as to constitute a proof of the validity of the method. A proof can only be obtained by the careful and long-continued accumulation of separate instances. Each of these separate instances may of itself be insufficient to give a proof that the cholera or other waterborne disease was stopped by the addition of the disinfectant. But it is to be hoped that a proof or a disproof of this thesis may be obtained by the accumulation of cases, each of which may when taken alone be valueless from this standpoint.

From the foregoing statements it will be obvious that the above results justify me in stating that the employment of permanganate is more likely to be of use in epidemics in which the microbe possesses a small degree of virulence than in cases in which its virulence is exceptional.

Experimental Mobilisation in the Home District.—It is too early yet to express a definite opinion as to the results of this most interesting experiment, but as far as the evidence of competent eye-witnesses goes, the general result appears most satisfactory. The men, on the whole, certainly belied the pessimistic views as to the fate of the Reserve men current in the public press, and of the horses I have heard nothing but the most complimentary opinions. Contrary to all expectation "sore backs" have been conspicuous by their absence in the cavalry remounts, and the explanation of this phenomenon will probably be found in the fact that they have joined in a higher average state of "condition" owing to harder work than our own troop horses usually attain. From observations extending over several years at Aldershot, in India, and on the Continent, I am personally convinced that, given reasonable care in the fitting of saddlery, "sore backs" are almost entirely a question of "condition." Horses in soft condition, rub, bruise, and cut, far more easily than horses in hard condition, for the same physiological reasons that enable a prize-fighter in training to stand up to punishment that no untrained man could endure.

F.N.M

CHINA.—The following appeared in the *Pioneer* for 10th July. Reports previously received from medical experts engaged in the Chilian War of the behaviour of the Mannlicher small-bore bullets in collision with human flesh and blood confirm the writer's views, and since the bullets of the Lebel rifle are practically identical in length, sp. gr., covering, etc., it is to say the least improbable that they will obtain better results. All newspaper statements to the contrary require careful investigation:—

"From reports which have been received from China it would appear certain that the bullets of the small-bore Muriatta rifle, used by the Japanese, behave exactly the same as the Lee-Metford pellet when finding their billet in a human

body. This was only to be expected, as the bore is the same in each case. The Chinese soldiers wounded in action experienced very little difficulty in getting away, even after two or more bullets had hit them. They were generally on the run when struck, and their flight was probably accelerated rather than retarded by the sharp reminders they received. As they have practically no ambulance and no surgeons to look after them in the battle-field they could only make tracks inland with all possible speed, trusting to kindly Nature to heal their wounds. This she did in a most marvellous fashion in many cases, and China must now contain many hundreds of so-called soldiers who owe their lives to the invention of the small-bore rifle. The Japs were only partially armed with the Muriatta; the majority of the infantry had a rifle carrying a much heavier bullet, and this it was that did real execution in the decisive actions. They were thus much in the same position as the Indian Army, in which the British troops have the Lee-Metford and the sepoys the Martini-Henry. There are signs that the '303 weapon is not favourably regarded; but the Japs will not need to go back on their weapon, as they are never likely to have the unpleasant experience of charges by fanatics. We, however, must look to the armament of the British soldier, who has to face such charges in Asia and Africa. The rifle he is armed with is wonderfully accurate and easily manipulated, but the bullet needs changing, or at least modifying. Perhaps the solution will be found in having the point free from the cupro-nickel covering. Experiments on condemned transport-animals might well be tried to prove if this would give the pellet more stopping power."

FRANCE.—*New Regulation for Field Service.* The regulations of the 26th October, 1883, have been subjected to a thorough revise and brought into harmony with the conditions evolved by recent changes in armament and organisation.

They are to appear within the next few days, and will bear date 28th May, 1895. The new work will be divided into the following sections:—1, Organisation of the Army; 2, Orders; 3, Reconnaissance; 4, Security; 5, Marches; 6, Cantonnements, camps, and bivouacs; 7, Supply of ammunition; 8, Supply of food to troops in the field; 9, Requisitions; 10, Detachments; 11, Conduct of patrols; 12, Convoys and their protection; 13, Duties of the military police; 14, Combat. The tendency of this revised edition is to substitute, wherever possible, principles and general rules for exact prescription. A full discussion of the general headings will be found in the *Deutsche Heeres Zeitung*, No. 60.

Musketry in the French Army.—The following table, based on experiments at the Chalons School of Musketry, is intended to show the percentage of hits to be expected from a well-trained body of men:—

Range.	Rifle of 1874.	Rifle of 1886.	Target.	Position.
100 m.	58·7	70·4	50 c.m. diameter	Kneeling, no rest
200 "	55·4	67·9	1 m. diameter	" "
200 "	40·7	53·8	" "	Standing "
300 "	37·6	50·1	1·50 m. diameter	" "
400 "	47·5	60	2 m. diameter	Kneeling
400 "	43	58·8	" "	Lying down
600 "	29·7	46·2	3 m. × 2 m.	" "
200 "	38	50	1 m. diameter	Standing, fixed bayonet
200 "	35	67	" "	Kneeling, fixed bayonet
250 "	10·3	16	Kneeling figure	Standing, fixed bayonet
400 "	18·5	24·5	2 kneeling figures	Kneeling
350 "		40	2 m. × 2 m.	Magazine fire, 30 seconds
200 "		11	Head and shoulder disappearing (3 seconds exposure)	Magazine fire, time not given

COLLECTIVE FIRING.

Range.	Rifle of 1874.	Rifle of 1886.	Target.	
600 m.	7'8	12'9	7 standing figures	Squad volleys
800 "	5'3	10'1	14 standing figures	Half-section volleys
1000 "	3'7	7'6	28 standing figures	Section volleys
800 "	5'8	11'4	"	"
600 " }	8'9	16'9	"	Independent firing
500 " }			"	Rapid fire
350 "	8'6	11'8	"	

Pigeon-Flying, Ocean Race.—The results of the match recently arranged and contested on the 30th June last are considered to have been very satisfactory. The pigeons were released some 300 miles from land, and found their way back safely to their lofts at Dijon, Villeneuve-sur-Yonne, Paris, Courtray, etc. Three hundred and fifty started, but the percentage of losses is, unfortunately, not given.—*L'Avenir Militaire*, No. 2017.

Railway Development.—An arrangement has been come to between the Government and the railway companies concerned, and submitted to the Chambers for approval, by which the lines leading from Paris to the Cotentin and Brittany will be doubled throughout, and further facilities for the transport of troops through Paris be provided.

At the present moment the line Paris-Rennes-Brest is double as far as Rennes, but single from thence to Brest; 249 kilogrammes, earthworks, bridges, etc., are, however, designed for a double line, so that the extra rails only require to be laid, the estimated cost being 10 million francs.

The Paris-Cherbourg line is double as far as Caen, but from thence to Cherbourg earthwork has to be completed for 20 kilogrammes. Total estimated cost 6 million francs.

The details of the alterations within Paris are too long for reproduction in a note, but the importance of their completion in case of war with England can hardly be overrated, for it will then be possible to transmit troops from any part of France to the coast, and even the indication that the mobilisation of corps for the manœuvres might afford us will now no longer be available.

GERMANY.—*Equipment of Infantry.*—By Cabinet order, dated 25th May, 1895, the experimental equipment tested at last year's manœuvres is to be forthwith adopted. Full details will be found in the *Revue Militaire de l'Étranger*, 1894, p. 500.

The Militair Zeitung (Vienna), 22nd June, 1895, gives interesting details of the course of experiments, undertaken by Imperial order, by Drs. Zuntz and Schumburg, on medical students of the Friedrich Wilhelm Institution, who volunteered to undertake a series of marches under certain conditions of equipment, weather, food, etc., submitting to the most vigorous medical supervision throughout. The distances marched varied from fifteen to forty-six miles, and the loads carried from 48 to 68 lbs. It was found that with a load not exceeding 48 lbs. in medium weather fifteen to sixteen miles could be covered without any injurious result whatever; even in hot weather the symptoms evoked are not serious, and a few hours' rest will suffice for recovery. Sixty lbs. can be carried satisfactorily in ordinary weather, but two or three hot days will break the men down. Sixty-eight lbs. is simply crushing, and threatens permanent injury to the bearer.

INDIA.—“Lord Roberts’ forecast regarding the improvement that would take place in the shooting of the field-artillery in India, when officers and men had become accustomed to the 12-pounder breech-loading gun, has been fully verified. The 12-pounder is, indeed, a splendid weapon, and when it comes to be used in action its killing-power should demoralise any enemy. The recent annual practice of Horse and Field batteries in India has been most instructive. We will take first the average struck on all the batteries at various ranges and targets, the range being in every case unknown to officers commanding. As regards the ‘ranging’ the general rule has been that at the longer distances (usually at targets representing a 6-gun battery in action) the battery range-takers were employed; at the medium distances it was optional with officers commanding to use the range-takers or not; at short distances, generally against 2 feet square targets representing infantry kneeling, range-takers were not allowed at all. Thus no unfair advantage was allowed, the conditions approximating as closely as possible to those which would obtain in the field. The averages were as follows:—(1) Range about 2,450 yards; targets thirty-nine standing dummies (6 feet \times 2 feet) to represent the *personnel* of a battery in action with normal intervals between detachments; effect 6·6 per cent. of the targets destroyed per minute in action. In other words, in less than sixteen minutes from the command ‘Halt; action’ every dummy would be hit with an average of five hits on each. (2) Range about 2,100 yards; target fifty standing dummies in the open, with one yard clear interval between them; effect 11·43 per cent per minute. Thus in about nine minutes every dummy would have received five hits. (3) Range about 1,500 yards; target fifty kneeling dummies at yard intervals; effect 10·35 per cent. per minute, or every dummy hit from three to four times in less than ten minutes. We quote these figures in detail as showing what our guns can do, and it should be remembered that these are averages and not the figures of picked batteries. What may be expected from good shooting batteries, armed with the 12-pounder, under fairly favourable conditions of light and ground, is shown in the results obtained by five batteries practising together last January in the Bombay Presidency. Two targets—one representing infantry, fifty standing dummies painted khaki-colour, in line at yard intervals, range about 1,300 yards; and the other an artillery target represented by thirty-nine standing dummies, also khaki-coloured, arranged as the detachments of a 6-gun battery in action, distance about 2,000 yards—were placed on ground quite unfamiliar to the batteries practising. This means that not only was the distance unknown, but also that, the ground being strange, officers commanding could not from previous experience in that particular place form any estimate of what the range might be. No range-takers were allowed. Fire was first opened on the infantry target; then, at the expiry of four minutes from the usual command “Halt; action,” the stream of shell was turned on to the artillery target. Each battery practised independently, but from the results obtained it appeared that had the five been firing together against 250 infantry dummies and the detachments of five batteries, 1,549 hits would have been scored on 231 of the infantry in the first four minutes, and 663 hits on 152 out of the 195 artillery dummies in six minutes from fire being switched off the infantry target. We can find no previous record of such an effect as this either in England or in India, for in ten minutes there would have been only sixty-two dummies untouched out of the whole 445, and this at 1,300 and 2,000 yards range respectively.—*The Pioneer*, 10th July.

MADAGASCAR.—The fairest source of information, as to the progress and health of the troops engaged in this expedition, will be found in the columns of *L’Avenir Militaire*. In England, the letters of the Special Correspondent of the *Pall Mall Gazette* deserve appreciation. Comparing the progress thus made with similar undertakings of our own in new countries, there certainly seems

nothing to justify either the pessimism of the French civilian papers, or the hardly concealed sense of jubilation of some of our own. As regards the health of the troops, 10 per cent. of fever cases and 1 per cent. of deaths, there are probably very few stations in the plains of India, and none in Burmah at this time of the year, where the garrisons would not be glad to take over the whole of the French complaint in exchange for their own. The worst of the year has yet to come, but on a just comparison between the conditions of Madagascar and those in Burmah, Bhootan, and the Assam hills generally, there seems no reason whatever to anticipate for the French a death-roll anywhere approaching what our men have borne time and again without a word of recognition or sympathy from the public.

RUSSIA.—*The Revue Militaire de l'Étranger* gives a full account of the progress effected up to date on the Trans-Siberian Railway. On the 19th July the roadway was complete, and rails laid to Omsk, 1,088 miles in all, or one quarter of the whole distance. Between Omsk and the Obi 186 miles of rail laid, but only 29 ballasted up; 88 per cent. of the earthworks completed. From the Obi to Krasnoiarski, 142 miles of rail laid, 30 miles ballasted; 52 per cent. of earthworks completed. From Krasnoiarski to Irkoutsk ground has been broken; from Irkoutsk to Pokrovskaia the alignment sanctioned but not commenced; and from thence on to the termination of the Vladivostok line at Grafskaia surveys have been made, but no alignment decided on.

FOREIGN AUTUMN MANOEUVRES, 1895.

FOREIGN AUTUMN MANOEUVRES.

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Country.	Nature of manoeuvres.	Troops to be employed.	Dates.		Locality.	Best centre for spectators.
			From	To		
AUSTRIA-HUNGARY	Corps r. Corps	VIII. and XIV. Corps	2nd Sept.	4th Sept.	Near Bohemian and Austrian frontier	Krumau.
	Extended reconnaissance by large bodies of Cavalry.	.. ..	16th Sept.	18th Sept.	West Hungary ..	.. ..
	Practice in crossing rivers by Cavalry.	.. ..	20th Sept.	21st Sept.	East Hungary ..	.. ..
	Corps r. Corps	VII. and XII. Corps (Emperor directing.)	24th Sept.	26th Sept.	In the neighbourhood of the Hungarian & Siebenbürgen frontier	Czernowitz, Banffy-Hunyad and Broos.
BELGIUM ..	Grand manoeuvres (including siege operations).	2 Divisions	2nd Sept.	12th Sept.	Antwerp	Antwerp.
BULGARIA ..	2 divisions r. 2 divisions ..	(?)	Beginning of September		.. ..	.. ..
FRANCE ..	Grand manoeuvres	3 Army-Corps (6th, 7th, and 8th)	6th Sept.	20th Sept.	Langres	Langres-Neufchâteau.
	Divisional manoeuvres	In 2nd, 5th, 9th, and 12th Regions		No particulars.	.. ..	.. ..
	Brigade	In 1st, 3rd, 4th, 10th, 11th, 13th, 14th, 15th, 16th, 17th, and 18th Regions.		"		
	Cavalry	3 divisions (18 regiments)		"		

Country.	Nature of manoeuvres.	Troops to be employed.	Dates.		Locality.	Best centre for spectators.
			From	To		
GERMANY...	Pande	Guard Corps.. .. .	2nd Sept.		Berlin	Berlin.
	Pande	II. Corps	7th Sept.		Stettin	Stettin.
	Imperial manoeuvres	Guard, II., III., and IX. Corps, 2 Cavalry divisions, 2 balloon detachments.	10th Sept.	12th Sept.	Near Prenzlau	Stettin.
	Brigade, divisional, and corps manoeuvres.	The remaining Army Corps will hold manoeuvres in their own districts. A Cavalry division will be attached to the VI. and another to the VII. Corps.	1st Sept.	25th Sept.	.. .. .	.. .. .
HOLLAND...	Combined manoeuvres	4th, 5th, and 7th Regiments of Infantry, regiment of Grenadiers and Jagers, 1st, 2nd, and 3rd Regiments of Hussars, 6 batteries of Field and 2 of Horse Artillery.	3rd Sept.	10th Sept.	Naaarden, Bauru, Hilversum, Laren, Soest, and Zeist.	Amsterdam.
	Combined manoeuvres by land and sea.	1 battalion of Grenadiers and Jagers, 1 battalion of 6th Infantry Regiment, 2 batteries of Field Artillery, 3 companies of Fortress Artillery, and detachments of Hussars, Engineers, and Torpedoists.	16th Sept.	20th Sept.	Mouths of the Meuse and Haringvliet.	Rotterdam.

Grand manoeuvres		2 Corps—		23rd Aug.		3rd Sept.		Terzi — Aquila — Solmona.		Aquila.	
..		I. Corps—		1st Division. — Naples Brigade, 75th and 76th Regiments; Torino Brigade, 81st and 82nd Regiments.		2nd Division. — Brescia Brigade, 19th and 20th Regiments; Ancona Brigade, 69th and 70th Regiments.		II. Corps—		3rd Division—Grenadier Brigade, 1st and 2nd Regiments; Cremona Brigade, 21st and 22nd Regiments.	
..		..		4th Division. — Pinerolo Brigade, 13th and 14th Regiments; Ravenna Brigade, 37th and 38th Regiments.		I. Corps Troops, 5th Regiment Bersaglieri and 22nd Regiment Cavalry.		II. Corps Troops, 10th Regiment Bersaglieri, and 11th Regiment Cavalry.		Each corps will have its own corps manoeuvres at its own centre, those corps which supply troops for grand manoeuvres not using those troops for corps manoeuvres.	
Corps .. ..		..		22nd July		3rd August		Corps Centres		..	
										1. Turin. 2. Alessandria. 3. Milan. 4. Piacenza. 5. Verona. 6. Bologna. 7. Ancona. 8. Firenze. 9. Rome. 10. Naples. 11. Bari. 12. Palermo (Sicily).	

FOREIGN AUTUMN MANŒUVRES.

Country.	Nature of manoeuvres.	Troops to be employed.	Dates.		Locality.	Best centre for spectators.
			From	To		
ITALY (<i>contd.</i>)	Alpine	As last year ..	1st June..	15th June	District of Cagliari	.. ..
	Sardinian	The troops of Class 1870 ..	15th May	1st June	Bucharest ..	Bucharest.
ROUMANIA {	Corps r. corps, round Bucharest fortifications.	I. Corps (attacks), II. Corps (defends), and 2 Cavalry Divisions.	About middle of Sept.	"	Bucharest ..	.. ..
	Local (divisional, brigade, and regimental).	III. and IV. Corps..	"	"	Various ..	.. ..
(The Russians do not publish their manoeuvres. The following is all that is known about the principal ones at present, and its accuracy cannot be vouched for.)						
RUSSIA }	General manoeuvres ..	26th Infantry Division ..	{ 6th Aug.	2nd Sept.	Surikamish (near Kars).	.. ..
		38th " "				
		20th Artillery Brigade ..				
		38th " "				
		1st Caucasian Cossack Division ..	{ 26th Aug.	22nd Sept.	Tiflis ..	.. ..
		2nd " "				
SERVIA }	Cavalry manoeuvres ..	Caucasian Grenadier Division ..	{ (?)	(?)	Warsaw ..	.. ..
		2nd Caucasian Rifle Brigades ..				
		The Caucasian Grenadier Artillery Brigade, ..				
		1 Reserve battalion ..				
		1 Cavalry regiment..	{ (?)	12th Sept.	Carton Vaud,north of Lake Geneva, between Yverdon and Nyon.	Lausanne.
		The Cavalry and Horse Artillery will concentrate in their Military Districts. The largest concentration will be— 83 squadrons and 5 horse batteries				
SERVIA ..	"Grand"	(?)	(?)	(?)	.. ..	.. ..
SWITZER-LAND.	Divisional and corps manoeuvres	I. Army-Corps (1st and 2nd Divisions).	7th Sept.	12th Sept.	Carton Vaud,north of Lake Geneva, between Yverdon and Nyon.	Lausanne.

FOREIGN PERIODICALS.

NAVAL.

AUSTRIA-HUNGARY.—*Mittheilungen aus dem Gebiete des Seewesens*.—No. 8. Pola and Vienna: August, 1895.—"The North Sea and Baltic Canal" (with plans). "The Opening Ceremony of the Canal." "Melanesia," with numerous sketches. "The First class English Battle-ships" (with photographs). "Launch of the 'Terrible' (with photograph). "The English Torpedo-boat Destroyers." "Battle-ships and Torpedo-boat Destroyers." "Foreign Naval Notes." "Aluminium for the Construction of Torpedo-boats." "Notices of Books."

DENMARK.—*Tidsskrift for Sjøvesen*.—No. 3. Copenhagen.—"On Explosions of Steam Pipes in Marine Engines." "The English Naval Manœuvres of 1894." "Some Remarks on Strategy and Tactics." "On the Use of Bullivant's Nets on Ships when under weigh."

FRANCE.—*Revue Maritime et Coloniale*.—Paris: May, 1895. "A Bibliographical résumé of the Works on Dahomey." "The Geometry of Diagrams." "Chronicle of the Port of Lorient, 1803-1809" (*concluded*). "Naval Warfare," an Analysis of Admiral Colomb's work (*concluded*). "Naval Chronicle: The English Naval Estimates for 1895-96; England, Austria, Russia, Spain." "The Maritime Fisheries." "Book Notices." June, 1895.—"The Winds and Currents of the Ocean." "Remarks on Some Problems for Intercepting and Chasing an Enemy at Sea." "Study of the Mechanical Theory of Heat." "A Bibliographical résumé of the Works on Dahomey" (*concluded*). "The Loss of the Battle-ship 'Victoria.'" "Naval Chronicle: New Constructions in England; China, the war-ships captured by the Japanese; Italy, Ships under Construction; Japan, the new battle-ships building in England; Chili, the 'Blanco-Encalada.'" "The Naval Budgets of England and Italy." "The Sea Fisheries." "Notices of Books."

Le Yacht.—Paris, 6th July, 1895.—"The Naval Assembly at Kiel" (E. Weyl). "Yachting News." "The French Squadron at Kiel." "The Naval Manœuvres of 1895." "The Trials of the 'Bouvines.'" "The Maritime Postal Services in the Mediterranean." "The Institution of Naval Architects at Paris." "Naval Notes, Home and Foreign." 13th July.—"The Danish Navy" (E. Weyl). "Yachting News." "The Institution of Naval Architects at Paris." "The Stability of Ships under sail" (*continued*). "Naval Notes, Home and Foreign." 20th July.—"The Budget for the Navy for 1895" (E. Weyl). "Yachting Notes." "The Naval Manœuvres in the Channel." "The Champions for the American Cup, 'Valkyrie III.' and 'Defender.'" "The English Naval Manœuvres of 1895." "The Stability of Ships under sail" (*continued*). "Naval Notes, Home and Foreign." 27th July.—"Some Remarks on Recent Notices of the Squadrons collected at Kiel" (E. Weyl). "Yachting Notes." "Launch of the First class Battle-ship 'Masséna.'" "Naval Notes, Home and Foreign." "Stability of Ships under sail" (*concluded*).

Le Moniteur de la Flotte. Paris: 6th July, 1895.—"Corsair-Cruisers" (Marc Landry). "The Naval Manœuvres of 1895." "The Port of Rochefort." "Colonial Notes." "Naval Notes, Home and Foreign." "Official Announcements." 13th July.—"Carrier Pigeons at Sea." "The Naval Manœuvres." "The Protection of Semaphores." "Colonial Notes." "Naval Notes, Home and

Foreign." 20th July.—"The Naval Manœuvres" (Marc Landry). "The Annexe to the Budget." "The Navy in Parliament." "Colonial Notes." "Naval Notes, Home and Foreign." 27th July.—"The Naval Manœuvres" (Marc Landry). "The Accident on board the 'Bouvines.'" "The Annexe to the Budget." "Colonial Notes." "Naval Notes, Home and Foreign." "The English Naval Manœuvres."

La Marine Française. Paris: 10th July, 1895.—"Before the Grand Naval Manœuvres" (Commandants Z. and H. Montéchant (with chart). "Two Tactical Exercises carried out by the Mediterranean Squadron" (with chart). "On the Defence of the Coasts" (*concluded*). "The Proposed Plans of Two Corsair-Cruisers." "Colonial Politics." "Naval Chronicle, Home and Foreign." 25th July.—"Our Naval Programme." "On Naval War: Our Naval Bases." "On the Necessity of a Fighting Fleet designed for Special Purposes" (Commandants Z. and H. Montéchant). "The Abyssinian Question." "The Niclausse Multitubular Boiler" (with plates). "Naval Chronicle, Home and Foreign."

GERMANY.—*Marine Rundschau.* Berlin: August, 1895.—"The Opening Ceremony of the Baltic and North Sea Canal," with photograph of Harbour of Kiel. "Naval Officers and Foreign Languages." "On the Utilisation of Station Lines in Navigation," with two charts and twelve figures. "Remarks on the Sanitary conditions of certain Harbours in the West Indies." "The Ship-traffic in the Levant." "The Lawn-tennis Tournament for Army and Navy Officers at Homburg." "Foreign and Naval Notes." "Book Notices."

ITALY.—*Revista Marittima.* Rome, July, 1895.—"The Maritime Power of England during the French Revolution and Empire." "Torpedo Attacks by Day." "Apparatus for Determining the Resistance of a Ship's Hull." "The Naval Situation in the Mediterranean." "The Naval Enterprises of Cervantes." Letters to the Director:—"On Torpedo-boats"; "On English Coal in Italy." "Naval Foreign Notes, with photographs of 'Hohenzollern' and 'Kaiserin-Augusta.'" "Mercantile Marine Notes." "Yachting News." "Notices of Books." "The Hurricane off the Coast of Spain and Portugal, 10th March, 1895" (with chart).

SPAIN.—*Revista General de Marina.* Madrid: July, 1895.—"In Memoriam: Peral the Inventor of the Submarine-boat." "Torpedo-boat Destroyers." "Succour to the Wounded and Shipwrecked in Naval War" (*continued*). "Elements of Electro-Dynamics" (with plates). "The Cruiser 'Reina Mercedes.'" "Observations of Precision with the Sextant." "The Ministry of Marine." "Vocabulary of Powders and Modern Explosives" (*continued*). "Foreign Naval Notes." "Notices of Books."

MILITARY.

AUSTRIA.—*Organ der militair wissenschaftlichen Vereine.* Vienna: July.—"Narrow-gauge Railways for the Transport of Wounded in War." "Advantages and Drawbacks of the new Small-bore Infantry Armaments"; should be read in connection with recent Chitral experiences. "The Relations of Force, Space, and Time on the battle-field"; a lecture delivered at Buda-Pesth, by Lieut. Teisinger, brings together many facts in a useful and striking form. "Notes." "Book Notices," etc.

Mittheilungen über Gegenstände des Artillerie- und Geniewesens. July.—"Horizontal and Vertical Fire in Coast Defence." "Theoretical Investigation of the Span and Sag of Telegraphic Air-lines." "Clearing River Ice by Petards";

experiments conducted by the K. K. Pioneer Battalion No. 10, in 1895. "Transport and Handling of Melinite." "Notes," etc.

FRANCE.—*Revue du Cercle Militaire*. 6th July.—"The German Army List, 1895," a summary and analysis of the Army List; worth reading. "The Passage of the Balkans," by General Gourko (with maps). "The Means of Transport in the Italian Mountain Troops"; worth reading. 13th July.—"En route for Madagascar," from the journal of an officer in the Expeditionary Corps; only takes us as far as Suez, but will be continued. "Passage of the Balkans," by General Gourko (*continued*). "Transport in the Italian Mountain Troops." 20th July.—"Passage of the Balkans" (*continued*). "Transport in the Italian Mountain Troops" (*concluded*). 27th July.—"Journal of an Officer in the Madagascar Expeditionary Force," reaches Madagascar after a satisfactory voyage.

Journal des Sciences Militaires. July.—"Decisive Attacks," with modern instances and maps. "The Organisation of the Nation in Arms." "Tactical Questions." "The Cavalry of the Allies during the Campaign of 1814," by E. Weil. "Military Operations on the Frontier of Savoy, and in the Haut-Dauphiné in the 18th Century." "The Chino-Japanese War."

L'Avenir Militaire. 5th July.—"The School for Commissariat Officers." "Deficiency of Means for Disembarking Troops at Majunga." "The Victory of the 'Beritzoka.'" "French Instructors in the Japanese Armies." "General Inspections," refers to the chapter in von Pelet-Narbonne's well-known work, "The IV. Corps in the Battle of Mars la Tour," from General Lebrun's Memoirs. "The Army in Parliament." 12th July.—"The New Law against Spies," criticisms by the press. "The Army in Parliament." 19th July.—"The Crisis in the Legion of Honour," continued in subsequent numbers; deserves careful study. "Our Non-commissioned Officers." "The Army in Parliament." 26th July.—"The German Plan of Campaign," summary of article by Captain Gilbert in the July number of the *Nouvelle Revue*. "How to obtain a Lower Average of Age in the Superior Ranks," proposes to crush out the seniors by tests of physical endurance. "Table of Percentages of Hits to be obtained by a well-trained Body of Troops," compiled at the School of Instruction at Chalons (see "Notes"). "Ill-treatment of Soldiers in the Army," two very serious cases. 30th July.—"Responsibility in Madagascar," worth reading. The Madagascar news and comments throughout this issue are conspicuous for fairness and common sense. "The Gendarmerie and the Commissions for classifying Requisitioned Horses." "New Naval Artillery."

Revue Militaire de l'Étranger. July.—"The Administrative personnel in the German Regiments." "The British Campaign in Chitral" from British sources, generously appreciative of the conduct of our soldiers. "The present state of the works of the Trans-Siberian Railway," with map (see "Notes").

Revue d'Artillerie. July. — "Unification of Industrial Measurements." "Theoretical Investigation of the Effects of Time Fuse Shrapnel Fire." "Targets in use in the German Artillery Schools," contains useful, practical hints for the construction of moving targets—with drawings; the targets are mounted on sleigh runners towed by ropes through snatch blocks; gives also details of petards for judging distance practices, etc.

Le Spectateur Militaire. August.—"The Reinforcement of the Cadres of the Infantry." Practical proposals to supply a more numerous and individually better backbone to the Infantry. "Marshal Canrobert," a short but readable sketch, which hardly does justice to its hero, by Noel Desmaysons. "The Bullet-proof Shield in the Wars of the Future," by L. Brun. Proposal to revive the ancient Roman "Tortoise"! columns of assault protected by Dowe's tailor-made shields!!! "The Consequences of War, 1812-70," analysis of losses, etc. "Notes." "Book Notices," etc.

Revue de Cavalerie. July.—“The German Cavalry and the Army of Chalons” (continued). “The Training and Leading of Cavalry,” translated from the German of General von Pelet-Narbonne. “Mounted Orderlies in Germany.” “Provisional Regiments and Detachments of Cavalry, 1809-13.” “Firing from Horseback—Individual and Collective.” “Timid Cavalry!” a letter unsigned, worth reading.

Revue du Service de l'Intendance Militaire.—“Extracts from the Studies of General Count Daru”; very interesting. “Composition of some Samples of French and Foreign Oats of the Crop of 1894.” “Study of the Supply of a Modern Army in the Field,” by M. O. Espanet; very highly spoken of in the French Military Press.

GERMANY. — *Jahrbücher für die deutsche Armee und Marine.* August.—“Friedrich von Hellwig and his raids, from 1792-1814”; a study in the minor operations of war, by Lieut-Colonel Fabricius. “The Evolution of the Bavarian Field Artillery up to 1874,” by Major-General Speck. “Fortress Manœuvres,” by Lieut-Colonel Frobenius; study of the recent French siege manœuvres around Paris, Fort Vaujours. “The International Red Cross Society.” “Military Life in the Thirty Years' War”; interesting. “The Instruction for Firing in the Artillery required by the development of the time percussion fuse.” “Notes,” etc.

Militär-Wochenblatt. 3rd July. — “Comments on General Rohne's essay on ‘Field Firing Problems for Infantry and Artillery, how to set them and how to judge them’”; contains some practical hints and useful figures. “Studies in Field Service”; review of the latest edition of von Verdy's well-known work, “The Present Condition of the United States Fleet.” 6th July.—“Cavalry Divisions in Peace”; reply to the objections urged to the original article under this heading in Nos. 27 and 28 of this paper. “Notes on the Main Campaign of 1866”; interesting sketch of the discipline and training of the armies of the small German States in that year, which both appear to have been more satisfactory than usually supposed, but were neutralised by superior homogeneity and armament of the Prussians. “Suggestions for Alterations in the School Firing of the Infantry”; practical. 10th July.—“Cavalry Questions III.”; interesting but hardly in harmony with von Schmidt and Pelet-Narbonne's ideas. “Horse Artillery”; a reply depreciatory somewhat of the Royal Horse. “Railway Protection and Railway War”; a review of Vol. III. of Cardinal von Widdern's ‘War on the rearward communication of the German Army, 1870.’ “Pigeon Flying in Italy.” 13th July.—“Cavalry Questions” (continued). “The Manœuvres in Italy for this year.” 17th July.—“Friedrich Gustav Graf von Waldersee, died 15th January, 1854”; a memoir; very interesting. “Les Batailles de la Marne”; review of Duquet's work; warmly congratulates the author on his fairmindedness. “Examinations for Staff Officers in the Austro-Hungarian Army.” 20th July.—“New Organisation of the Russian Field Artillery in Divisions” (*Abtheilungen*). 24th July.—“Re-organisation of the Chief Riding Institution in Vienna.” 27th July.—“Studies in Field Service”; review of the second part of von Verdy's new edition. “Divisional Commands in the Field Artillery.”

Supplement to the Militär-Wochenblatt.—“The Supply of the Russian Armies on the Danube in 1877-78,” by Major-General Krähmer; well worth careful study.

Deutsche Heeres Zeitung. 3rd July.—“Re-engagements in the Russian Army, 1874,” from the *Russki Invalid*. “Artillery in Combination with the other Arms,” *précis* of lectures by Staff-Captain Sviatzky at the Nicholas Staff Academy, Petersburg; worth reading. Author's conclusion is that artillery alone can ensure the success of the attack; in other words, ultimately, numerical superiority of guns means victory. 6th July.—“The Re-organisation of the Turkish Army,” based on

articles in the *Avenir Militaire* ; read. "The leading of the Turkish Army in the Balkans, 1877-8," by Thilo von Trotha, an acknowledged authority on this campaign. 17th July.—"Extracts from General Dragomirow's Orders and Comments," three typical instances of the General's searching and forcible comments at inspections ; well worth reading for the picture of the Russian Army they reveal. 20th July.—"Reform of the Austro-Hungarian Engineers." 24th July.—"Tactics in the Battle off the Yalu." 27th July. "The new French Field Service Regulations," summary and comment ; shows a marked advance on previous issues.

SWITZERLAND. — *Revue Militaire Suisse*. July. — "Swiss Military Reorganisation." "The rôle of Cavalry according to the Regulations of the 31st August, 1894," by Lieut-Colonel Diesbach, commanding the 1st Brigade of Cavalry. "Manœuvres of the first Army Corps." "Military Society proceedings at Basle." "The Cavalry Society."

UNITED STATES OF AMERICA.—*The United Service*. July.—"A Plea for Bimetallism." "A Sicilian Brigand." "Commodore Conner." "Chronicles of Carter Barracks" (fiction). "Another Forgotten General." "Among Our Contemporaries."

Journal of the Military Service Institution, 1895.—"Discipline," specially-mentioned prize essay ; worth reading ; by Lieutenant Steele." "An antiquated Artillery Organisation," by Captain Wagner. "Martial Law and Social Order," by Captain Chester. "Recruiting and Training of the Company," by Lieutenant Miller. "Our Artillery in the Mexican War," by Lieutenant van Dewen. "Technical Criticism," by Lieutenant Brooks. Reviews, Translations, etc.

NOTICES OF BOOKS.

The Ameer Abdur Rahman (Public Men of To-day Series). By STEPHEN WHEELER, F.R.G.S. London: Bliss, Sands, and Foster.

In this little volume Mr. Wheeler gives us a graphic account of the life and career of one who, with perhaps the exception of Li Hung Chang, is the most striking personality in the East. The eldest son of Dost Mahomed, the first of the Barakzai Ameer, he was to see the throne to which he had the best hereditary claim, occupied, first by his uncle Shere Ali, then for a brief period by his father Afzul, next by his uncle Azim, then again by Shere Ali till his death in February, 1879, and finally by his cousin Yakooob Khan, the son of Shere Ali. Shere Ali's death was Abdur Rahman's opportunity, but, to use an Oriental metaphor, he did not then seize the chance to place "the foot of ambition in the stirrup of daring," and it was not till in December, the deportation to India of Yakooob Khan after the dastardly murder of Cavagnari, decided him to leave his home of exile in Russian Turkestan, and with the aid of a Russian present of 5,000 Bokhara tillas (about £2,500), and a couple of hundred breech-loading rifles, to make a final bid for the Cabul throne. The result fulfilled his most sanguine expectations. The British recognised that he was the one man to whom the Government could be entrusted without leaving the country in anarchy when our troops should be withdrawn. In return for pledges that his foreign policy should be entirely under our control, we guaranteed him assistance in the event of any foreign, *i.e.*, Russian, interference with Afghan affairs, and a policy of absolute non-intervention in the internal administration of his own territories. In Kandahar also we relinquished our project of setting up a separate Government, and it too was handed over to him. The task set him now was to consolidate his inheritance. In South Afghanistan, Ayoob, the brother of Yakooob and son of Shere Ali, still was a power to be reckoned with, and it was not till near the end of 1881 that he and his adherents were finally accounted for, and Ayoob himself forced to flee into Persia. Maimana, an Usbeg state, in the South of Afghan Turkestan, now alone refused to acknowledge Abdur Rahman's sway, and two years were to elapse before it was finally reduced to subjection. Since then his rule over Afghanistan has been supreme, but troubled at times by the rebellion of intractable tribes ever averse to the payment of taxes. Notable amongst these have been the outbreaks amongst the Shinwarris, and Ghilzais, an insurrection fomented by Ishak Khan in Afghan Turkestan, and most recently of all the Hazara outbreak. All, however, have been subdued with ruthless severity, and Abdur Rahman may now claim to be firmly seated in the saddle. Nor have his foreign relations been altogether of the smoothest. The troubles with regard to the demarcation of his frontier on the Russian side are matters of history, nor did he acquiesce with any great alacrity in our annexation of the Zhob valley. There is no doubt that he has had a hankering to increase his dominions, but every outlet for such aggrandisement has been closed to him. Hard, rapacious, and cruel, he rules a hard and cruel people with a hard and cruel hand, but none can deny that he has shown himself a ruler of unusual ability. As John Lawrence said, we cannot judge Afghans by Christian principles; and his methods, though undoubtedly repulsive to Western ideas, have at any rate the merit of success. He is a strong man, where above all strength is wanted. The book is one which will be found to repay perusal, and is not the least interesting of an interesting series.

Geschichte der Sprengstoffchemie, der Sprengtechnik und des Torpedowesens bis zum Beginn der neuesten Zeit. By S. I. von ROMOCKI. Berlin: Robert Oppenheim (Gustav Schmidt), 1895.

This first part of the general "History of Explosives," promised by the author, going back to the very commencement of modern history, gives evidence of a vast amount of patient research, all the ancient writers which mention anything bearing on the subject having been consulted. Numerous and lengthy descriptions and quotations from the old writers in the original Greek, Latin, Chinese, Turkish, Dutch, German, French, English, Italian, and Spanish are given, with the quaint descriptive sketches and plans accompanying them, so that the whole subject is made interesting to the general reader, as well as to those specialists for whose benefit it may have been more particularly designed. The present volume brings the history of the subject down to the close of the eighteenth century, a large part of the text being occupied with notes from the "Firebook" of Marcus Graecus, of about the twelfth century, and that in Konrad Kyesser's "Bellifortis," who was well convinced of the importance of his work, as can be seen from the care he has taken to make his name and origin known in the introductory verses:—

"Hoc est exordium Bellifortis intitulatum
Rex novus quo Regem compellit futurus praesentem
Atque victor victum devincit sic derelictum
Caesaris ambitio desipit, nam ars valet aurum
Et littera clypeum militis gerit atque mucronem
Casulum cum stola gubernat littera sola
Litteris cunctor subsunt alia, quibus imperat unus
O summum numen mihi gubernat rationem
Donec perficiam ingenia subtiliora
Per quæ totus orbis cogitur virtute severa.
Invicti cuncti Christi, principes Christiani
Hoc opus grande presto sint magnificantes
Exulem Conradum Kyesser natum Eystetensem
Gloria glorificent altum de perfectione.
O summum altum, exulem extollas in altum
Sideris supremi, dans gaudia vitæ perennis.
Amen cuncti nati adaptent glorificate."

Much use is also made of the accounts of the Siege of Antwerp, 1585, and of the operations before La Rochelle, 1628. An old portrait of Konrad Kyesser forms the frontispiece of the present volume, and there is an eulogistic introduction by Dr. Max Jähns, author of the "Geschichte der Kriegswissenschaften," who bears his testimony to the historical, linguistic, and scientific proficiency of the author for his self-imposed task. If the present volume is an earnest of what may be expected in the succeeding ones, which we understand will deal with the modern and more practical departments of the subject, they will be awaited with some importance by the scientific world in general, and more especially by experts in this particular line.

T. J. H.

Outlines of Modern Tactics. By Lieut-Colonel E. GUNTER.

We are glad to welcome the Second Edition of Colonel Gunter's admirable work. It is in several respects an improvement on its predecessor, and by no means a mere reprint.

One merit in particular this book has, which ought to commend it to the authorities: It is a help to the study of the official drill-books of the three Arms, and can hardly fail to give officers and cadets a more intelligent grasp of the subjects of which it treats.

Outposts and night-operations are given in detail. Valuable notes on camps, bivouacs, cantonments, and savage-warfare have been added. The hints on working out tactical problems will be found of great service.

Smokeless powder has not been forgotten. Space and time in marches and formations are dealt with in a very full and intelligible way. The rules given for estimating the strength of troops observed on the march are helpful and trustworthy. They are a slight modification of the late Sir George Colley's method.

Colonel Gunter's book is to be commended also from a literary point of view, being free from the blemishes which too often disfigure military works. His style and method are very clear, and his diagrams careful and complete. His information is up-to-date. Militia candidates, or officers going up for promotion, might safely stand or fall by this book. Messrs. Clowes and Son are to be congratulated on the excellence of the type and general get-up of this useful work, which can be confidently recommended to all students of tactics.

The Crimea in 1854 and 1894. By General Sir EVELYN WOOD, V.C., G.C.B., G.C.M.G. London: Chapman & Hall, 1895. Price, 16s.

It is universally conceded by all practical men that the fighting value of an army is principally determined by the courage, discipline and endurance of the units of which it is composed. The difficulty always is, to arrive at some definite standard of excellence in each of these three factors towards which men must be encouraged to strive in peace time, and by which their conduct may safely be judged in war.

To base any system of tactics on the assumption that all men are heroes, and invulnerable into the bargain, is to court certain disaster, and to invert the factors will only lead to the same result. What is really wanted for the guidance of officers entrusted with the task of training troops in peace, is some accurate picture of things as they are in war, vouched for by the experience and personality of the author, and it is this which Sir Evelyn has given us.

There are other lessons this book also teaches, which it would be well that all should take to heart. No devotion or personal gallantry in the field, whether individual or collective, can make good ground lost by negligence of opportunities in peace, whether in administration or training; endurance and discipline can at most only palliate, they cannot compensate for, the evils thus entailed, and the punishment falls invariably on those who least deserve it.

The steadiness and discipline which may be expected of good long-service troops are not an adequate set-off for the want of trained reserves to support them, and, tactically, the failure of an assault will invariably be found due to want of adequate artillery preparation immediately preceding the advance, and want of timely support to the troops already engaged.

In conclusion, the book may be most strongly recommended for the men's libraries in both Services, not only for the sake of the examples to be emulated that it contains, but because it brings home in the most striking manner the strength of the tie forged by common dangers equally shared between officers and men—a tie of which the peace-trained, short-service soldier has but little idea, and which it is the constant effort of the gutter-press and the pothouse politician to undermine and destroy.

Seventeen Trips through Somali-land: A Record of Exploration and Big-Game Shooting, 1885-1893. By Captain H. G. C. SWAYNE, R.E. London: Rowland Ward, 1895. Price, 18s.

This is a narrative of several journeys into the hinterland of the Somali Coast Protectorate, dating from the beginning of its administration by Great Britain until the present time. It is a portrait of the country as it now is, as distinguished

from the desert home of savages which it was supposed to be only nine years ago, when Government took it over from Egypt, and when Captain Swayne's journeys began. Some of these were undertaken while at the disposal of the Political Authorities at Aden, others when on leave. The first English book of any importance on this subject was Sir Richard Burton's "First Footsteps in East Africa," describing his trip to Harar forty years ago, and how his caravan was attacked at Berbara and Lieutenant Stroyan killed. The next book was "The Horn of Africa," by F. L. James, giving an account of the first serious exploring trip into the interior of Somali-land. The country was being handed over by Egypt at that time, 1884-5, and it was while Mr. F. L. James' party was still in the interior that Captain Swayne made his first trip. Thus Captain Swayne's book gives a continuous narrative of the gradual rise of British influence and its causes from the time when the first Aden policeman landed on the coast. Two books have lately appeared giving good accounts of single sporting trips after lion or pig in Somali-land, but they do not attempt to give any general account of the country, the ground which Captain Swayne has made his own. In the book before us a chapter is devoted to elephant hunting, two to ethnology, two to Government expeditions, in which a few "brushes" with the natives are described, and in which notes on political matters are given. There are appendices on physical geography and trade, and the book is fully illustrated chiefly by the author's photographs and sketches, and by two maps, in which some thousands of miles of reconnaissance by the author and his brother, Captain J. E. Swayne, 16th Bengal Infantry, are embodied.

Actual Africa, or the Coming Continent. By FRANK VINCENT. London: Heinemann, 1895.

In the course of some two years' travel Mr. Vincent touched at almost every point of importance on the African Coast, penetrated far into the interior of the Congo Free State and traversed the island of Madagascar. He is, therefore, in a position to give us a relatively simultaneous comparison of the state of development attained in the colonies of each of the Powers at present engaged in the exploitation of this continent, and his book possesses value for this reason.

Unfortunately, Mr. Vincent approaches his problem with a strong anti-English bias. His views are those of Mr. Labouchere, who, indeed, he quotes as an authority on the conduct of the Matabeleland operations, thus discounting the value of his conclusions materially; but, nevertheless, those who can overcome the repugnance this attitude naturally awakens, will find matter in his pages well worth the time spent on its perusal.

Appendix to the Order of Field Service of the German Army, containing all alterations caused by the issue of the 1894 edition of the "Felddienst Ordnung." Translated for the Intelligence Division, War Office, by SPENSER WILKINSON. 1895.

The original of the above work was translated by Major J. M. Gawne and Mr. Spenser Wilkinson for the Manchester Tactical Society, and published by Mr. Stanford, of Cockspur Street, in 1893. With the Appendix, containing all alterations suggested by experience or necessitated by changes of organisation, it forms the most complete authority, on all questions of principle involved, at present in existence.

Manual for Army Medical Services, Addenda. By Surgeon Lieut.-Col. RIORDAN. London: Printed for the W.O. by Messrs. Harrison and Sons, 1895.

It is to be regretted that the author, or the War Office, did not evolve some better title for the work before us. It is true it is especially intended for the needs of the Medical Staff, but there is hardly a word in it which it is not to the interest of every combatant officer to peruse. Works of this description, especially when

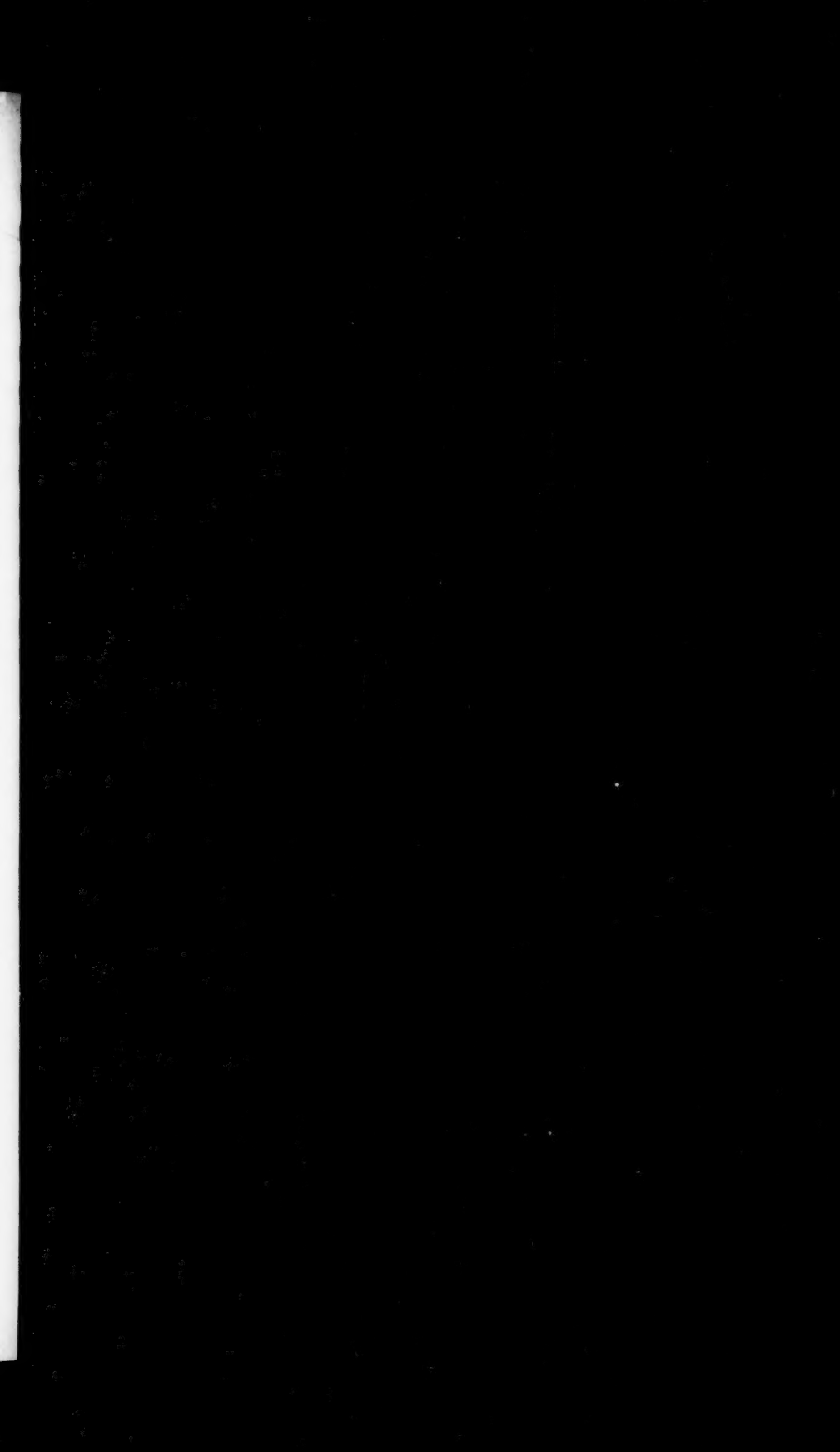
they are characterised by the marked ability of this one, form the best possible means of obviating the friction which inevitably arises in war owing to mutual ignorance of one another's requirements, certain always to exist between departments, and from this point of view it can be most strongly recommended.

Twenty-four hours of Moltke's Strategy, Displayed and Explained from the Battles of Gravelotte and St. Privat, 18th August, 1870. By Captain FRITZ HOENIG. Translated by Colonel N. L. Walford, R.A. Published by the R.A. Institution, Woolwich, 1895.

Colonel Walford has added another to the many debts the British Army owe him by the excellent translation he has given us of this most important and interesting work. A long and very accurate *précis* of its contents appeared in the pages of this JOURNAL some eighteen months ago, but the book is of such absorbing and sustained interest that no *précis* can fairly do justice to it, and we can most warmly recommend everyone to avail himself of the opportunity of studying the whole work with which Colonel Walford has provided him.

Aide-Mémoire de Manœuvres et de Campagne. Par le Lieut-Général H. C. FIX. Brussels : Librairie Militaire, C. Muquardt, 1895. Price, 8s.

The "Soldier's Pocket-books" of all nations are valuable sources of information to all engaged on the study of foreign armies. Not only do they afford in a condensed form much information usually buried in official orders and regulations, but they give at the same time an indication of the spirit in which the general principles on which all warfare is conducted are interpreted in the Army from which they originate—a point of the utmost importance for all Staff officers to master.





J. J. K. & Co., LONDON.

*H.M. Torpedo-boat Destroyer "BOXER," running at 23 Knots.
(From an Instantaneous Photograph sent by Messrs. Thornycroft & Co.)*